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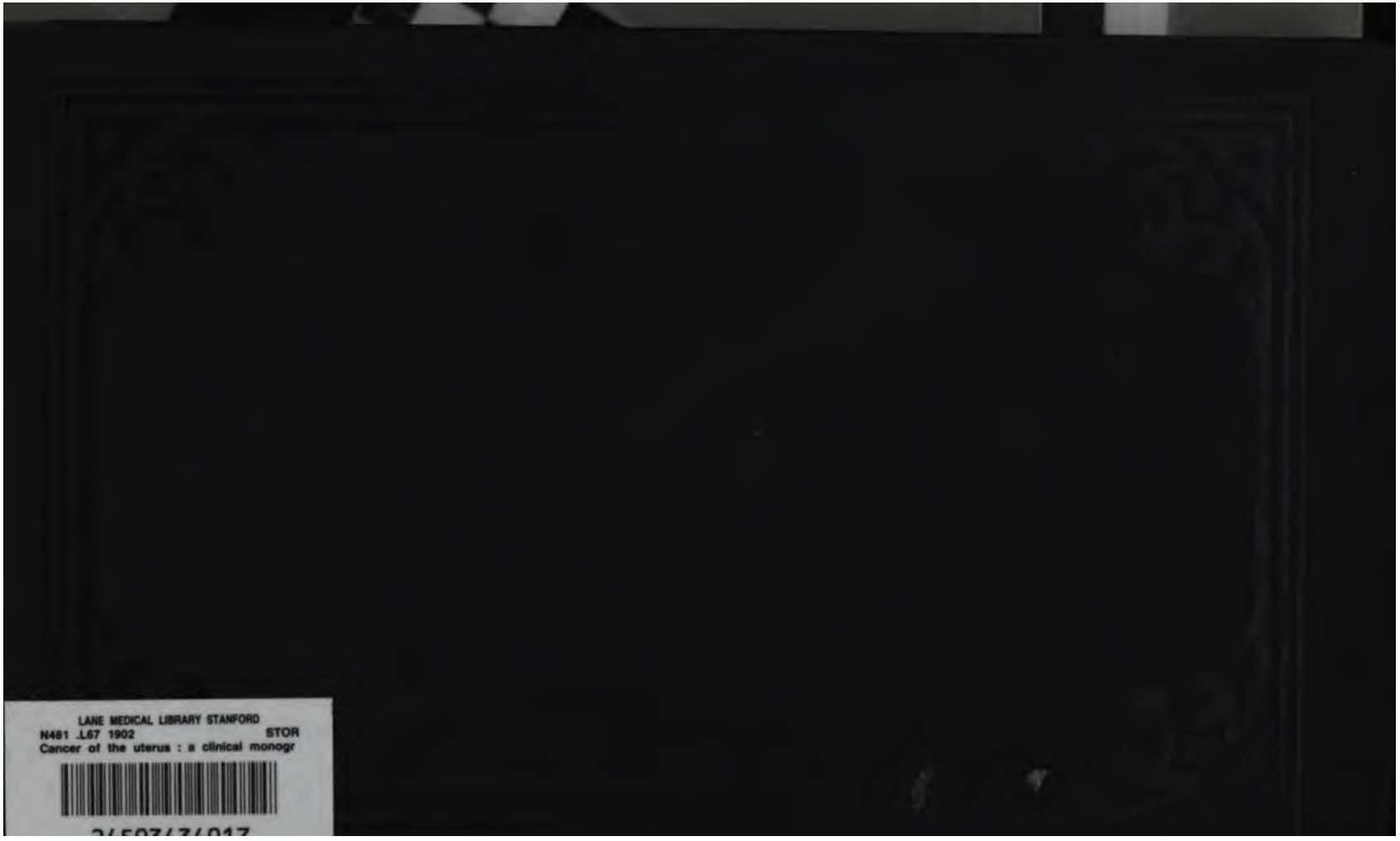
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CANCER OF THE UTERUS

A CLINICAL MONOGRAPH ON ITS DIAGNOSIS AND TREATMENT

WITH THE AFTER-RESULTS IN SEVENTY-THREE CASES TREATED BY RADICAL OPERATION

BY

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WITH 51 ORIGINAL ILLUSTRATIONS AND 3 COLOURED PLATES

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PREFACE.

In the following pages the subject is treated almost entirely from the clinical point of view. My intention has been to bring into prominence the fact that if cancer of the uterus, whether of the cervix or of the body, be met with in a reasonably early stage, there is a very good prospect that permanent relief will be secured by operative treatment. This proposition should not be accepted as true without the clearest evidence. In support of it I have brought forward full particulars of nineteen cases, fourteen of cancer of the cervix, and five of cancer of the body of the uterus, in which periods of from four to more than fifteen years have elapsed since the operation without any return of the disease. In each of these cases I have produced independent evidence that the disease was really cancer; and, equally important, full details have been given of the kind of evidence on which it is claimed that the disease has not recurred.

In the nature of things an investigation of this kind, to have any value, must be continued over a long period of time. As will appear from the records of my cases, my own observations have been spread over the last seventeen years. While as regards the nineteen cases mentioned the results of treatment are a source of legitimate satisfaction, there is another side to the

6304

question. I need hardly say that these nineteen cases form a very small fraction of the total number of cases of cancer of the uterus that have come under my observation in the past seventeen years. I have not kept a record of the total, but I should think, if I put these nineteen cases as constituting 2 or 3 per cent. of the total, it would be in the neighbourhood of the truth; that is to say, I have seen several hundred cases during the time in question for which nothing could be done. Yet the conclusion cannot be avoided that, if this large number of cases had only come under observation in time, all, or at all events the large majority of them, might have secured the same benefits as resulted from operation in the nineteen. In other words, the thing to be especially wished for in cases of cancer of the uterus is early diagnosis.

I am not content with merely expressing a formal hope that in the future early diagnosis of cancer of the uterus may be the rule, instead of the rare exception, as at present. After carefully considering the matter, I have come to the conclusion that the desired result will be most likely to follow when women themselves are more generally familiar with the significance of the early symptoms of cancer of the uterus.

On page 5 will be found particulars of the suggestion I make with the view of doing something of a practical nature in this respect. No single member of the profession can undertake a work of this kind. Activity in the direction indicated must, of course, for obvious reasons, be entirely impersonal. It could only be undertaken by a corporate body, such as, for instance, the Joint Committee appointed by the Royal College of Physicians of London, and the Royal College of Surgeons of England, to investigate the whole subject of Cancer.

Since at the present time probably not less than

95 per cent. of all cases of cancer of the uterus come under the observation of the profession at a stage of the disease when all prospect of permanent relief is out of the question, few will be found to deny that everything possible should be done to alter a condition of things so profoundly unsatisfactory.

ARTHUR H. N. LEWERS.

72, HARLEY STREET, LONDON, W.,
September 6th, 1902.

CONTENTS.

PAGE

INTRODUCTION 1

CHAPTER I.

CANCER OF THE CERVIX 7

CHAPTER II.

TREATMENT OF CANCER OF THE CERVIX 51

CHAPTER III.

THE AFTER-RESULTS OF RADICAL OPERATIONS FOR CANCER OF THE CERVIX 91

CHAPTER IV.

THE AFTER-RESULTS OF RADICAL OPERATIONS FOR CANCER OF THE CERVIX (*continued*) 126

CHAPTER V.

THE AFTER-RESULTS OF RADICAL OPERATIONS FOR CANCER OF THE CERVIX (*continued*) 144

CHAPTER VI.

CANCER OF THE BODY OF THE UTERUS 236

TABLE I

PAGE

EIGHT CASES OF SUPRA-VAGINAL AMPUTATION OF THE CERVIX FOR CANCER, IN WHICH THE PATIENTS ARE KNOWN TO HAVE BEEN WITHOUT RECURRENCE FROM FOUR TO NINE YEARS . . . 124

TABLE II.

SIX CASES OF VAGINAL EXTIRPATION FOR CANCER OF THE CERVIX, IN WHICH THE PATIENTS ARE KNOWN TO HAVE BEEN WITHOUT RECURRENCE FROM FOUR TO SEVEN YEARS . . . 143

TABLE III.

THIRTY-THREE CASES OF SUPRA-VAGINAL AMPUTATION OF THE CERVIX [illegible] . . . 219

TABLE IV.

FORTY CONSECUTIVE CASES OF VAGINAL EXTIRPATION PERFORMED FOR CANCER OF THE CERVIX . . . 224

TABLE V.

FIVE CASES OF CANCER OF THE BODY OF THE UTERUS IN WHICH THE PATIENTS ARE KNOWN TO HAVE BEEN FREE FROM RECURRENCE FROM FOUR TO NINE YEARS AFTER OPERATION . . . 321

LIST OF ILLUSTRATIONS.

PAGE

1. Cancer of the cervix: Cauliflower growth, early stage (squamous carcinoma), forming a sessile patch 16
2. Cancer of the cervix: Side view of the growth in the preceding figure 17
3. Cancer of the cervix: Cauliflower growth, early stage (columnar-celled carcinoma), of semi-polypoid, lobulated form 17
4. Cancer of the cervix: Cauliflower growth, more advanced stage (squamous carcinoma), of lobulated, semi-polypoid form . . . 18
5. Cancer of vaginal portion, forming a hard, slightly raised plaque (front view) 22
6. Side view of cervix in preceding figure 22
7. Cancer of cervix: The nodular form (photograph) 23
8. Slightly diagrammatic drawing of specimen in preceding figure . . 24
9. Cancer of cervix (squamous carcinoma): The nodular form . . . 25
10. Cancer of cervix: Antero-posterior mesial section of uterus, showing the marked thickening of the affected lip of the cervix . . . 26
11. Cancer of the cervix (squamous carcinoma): The crater-like ulcer (front view) 27
12. Side view of the cervix in the preceding figure 27
13. Cancer of the cervix: Uterus laid open to show extensive papillary growth occupying the whole of the cervical canal 31
14. Cancer of the cervix: Front view of vaginal portion, showing small projection of malignant growth at external os. The appearance would suggest an early stage of the disease 32
15. Cancer of the cervix: The uterus corresponding to the preceding figure removed, and laid open. The growth is seen to have spread upwards, involving the whole cervical canal, and about half of the endometrium as well 33
16. Primary tuberculosis of the cervix: The uterus removed and laid open to show papillary projections at external os, and extending up cervical canal 42
17. Primary tuberculosis of the cervix: The microscopical appearances (low power) 43
18. Primary tuberculosis of the cervix: The microscopical appearances (high power) 44
19. Cancer of the cervix complicated by numerous fibroids of the body of the uterus 54
22. Cancer of the cervix: Drawing of section of growth (squamous carcinoma) from a case well more than fifteen years after supra-vaginal amputation of the cervix . . . . . .

PAGE

24. Cancer of the cervix: Drawing of section of growth (squamous carcinoma) from a case well nearly twelve years after supra-vaginal amputation of the cervix (low power) 101
25. Drawing of the preceding section (high power) 102
27. Cancer of the cervix: Drawing of a section of growth (squamous carcinoma) from a case well more than seven years after supra-vaginal amputation of the cervix 107
29. Cancer of the cervix: Drawing of a section of growth (columnar-celled carcinoma) from a case well more than twelve years after supra-vaginal amputation of the cervix 110
30. Cancer of the cervix: Drawing of a section of growth (squamous carcinoma) from a case well more than five years after supra-vaginal amputation of the cervix 114
32. Cancer of the cervix: Drawing of a section of growth (squamous carcinoma) from a case well four years after supra-vaginal amputation of the cervix 122
33. Cancer of the cervix: Uterus removed by vaginal hysterectomy for large cauliflower growth (squamous carcinoma) of vaginal portion. No recurrence six years afterwards 127
34. Cancer of the cervix: Uterus removed by vaginal hysterectomy for large cauliflower growth (squamous carcinoma) with large pyometra. No recurrence more than seven years afterwards 132
35. Cancer of the cervix: Drawing of a section of the growth in preceding figure under a low power (squamous carcinoma) . . . 133
36. Cancer of the cervix: Drawing of the same section under a high power (squamous carcinoma) 134
37. Cancer of the cervix: Drawing of a section of growth (squamous carcinoma) from a case well nearly six years after vaginal hysterectomy (low power) 135
38. Cancer of the cervix (squamous carcinoma): Drawing of the same section under a high power 136
39. Cancer of the cervix: Drawing of a section of growth (columnar-celled carcinoma) 165
40. Cancer of the cervix: Drawing of a section of the cervix showing squamous carcinoma and adenoma in the same section . . . 195
44. Cancer of the body of the uterus: The papillary soft growth (columnar-celled carcinoma) in an early stage 243
45. Cancer of the body of the uterus: The papillary soft growth (columnar-celled carcinoma) in a more advanced stage. Papillary character only slightly marked 244
46. Cancer of the body of the uterus: The papillary soft growth (columnar-celled carcinoma) in a more advanced stage. Papillary character well marked 245
47. Cancer of the body of the uterus: The tuberose hard growth (columnar-celled carcinoma) in rather an advanced stage . . 248
48. Cancer of the body of the uterus: Endometrium hard and irregularly ulcerated (columnar-celled carcinoma), from a case well more than nine years after vaginal hysterectomy 249
49. Primary sarcoma of the body of the uterus (deciduoma malignum). Drawing of the uterus removed and laid open 278
50. Primary sarcoma of the body of the uterus: Drawing of the same

PAGE

uterus with the affected wall nearly bisected to show the extension of the growth deeply into the uterine wall 279

51. Primary sarcoma of the body of the uterus: Drawing of a section of the growth from the uterus shown in Fig. 50 280

52. Primary sarcoma of the body of the uterus: Drawing of the same section under a higher power 281

53. Primary sarcoma of the body of the uterus: Drawing of a section from the same case under a low power 283

54. Cancer of the body of the uterus: Drawing of a section of growth (columnar-celled carcinoma) under a low power 287

55. Cancer of the body of the uterus: Drawing of the same section under a high power (a columnar-celled carcinoma of the villous type) . 288

56. Cancer of the body of the uterus: Uterus removed by vaginal hysterectomy and laid open. Endometrium hard and irregularly ulcerated (columnar-celled carcinoma). From a case well more than nine years after operation 291

57. Cancer of the body of the uterus: Drawing of a section of growth (columnar-celled carcinoma) under a low power 292

58. Cancer of the body of the uterus: Drawing of the same section as shown in Fig. 57, under a high power 293

60. Cancer of the body of the uterus: Drawing of a section of growth (columnar-celled carcinoma) under a low power. From a case well nearly five years after vaginal hysterectomy 297

61. Cancer of the body of the uterus: Drawing of the same section as shown in Fig. 60, under a high power 298

PLATE I. represents the microscopical appearances of the growth (squamous-celled carcinoma) under a high and low power, from a case of cancer of the cervix treated by vaginal hysterectomy. In this case the patient remains well more than seven years after the operation 128

PLATE II. represents a uterus with interstitial circumscribed sarcoma of the body 269

PLATE III. represents (1) the anterior surface of the uterus figured in Plate II., showing the discoloration of the peritoneum opposite the largest growth; and (2) a portion of lung from the same case, showing the presence of numerous secondary sarcomatous nodules . 269

CANCER OF THE UTERUS.

INTRODUCTION.

At the present time, whatever may be the case in the future, the only treatment that offers either prolonged temporary, or permanent benefit in cases of cancer of the uterus is early and complete removal of the diseased tissues by operation.

The object of the present treatise is to bring before the profession the results of the author's experience in the diagnosis and treatment of this disease, one to which from the first he has devoted special attention, in the hope that a more general interest may be stimulated in the subject, and as a consequence that in an increasing proportion of cases the disease may be recognised in a fairly early stage. It is not too much to say that, when the disease is recognised in an early stage, a considerable proportion of the cases may be cured by operation. That cancer of the uterus is a hopeless and uniformly fatal disease is a proposition that has been true in the past through the whole period of human history during which the disease has been known, till about twenty years ago. From that time up to the present the proposition requires to be slightly modified. Cancer of the uterus is a hopeless and uniformly fatal disease except in those cases (hitherto a very small fraction of the whole number) in which the disease is recognised at an early stage, and in which a sufficiently radical operation has been performed. The

author's own cases, full details of which will be given later on, conclusively prove that in a certain number of cases of cancer of the uterus the disease is curable by operation. The absolute number of cases in which this result has been obtained is not large, but the proportion relative to the whole number operated on is so considerable as to be decidedly encouraging.

The difficulties that lie in the way of recognising cancer of the uterus in an early (*i.e.* a probably curable) stage are many. First I should be inclined to place the fatal tradition clinging to the name of the disease. Till just recently, to diagnose cancer of the uterus was equivalent to saying that a patient was suffering from an illness of which she must certainly die, and, in many cases unfortunately, after a period of the most horrible suffering. It is not to be wondered at that many practitioners should hesitate even to suspect the presence of such a disease, or, even if suspecting it, should hesitate to insist on the importance of making a proper examination for fear of alarming the patient, and should be content with treating such symptoms as might be present by medicine and vaginal douches—at all events for a time. For, after all, what great harm could there be in postponing the certain diagnosis of a disease for which practically nothing could be done? But the position is now entirely altered, since we now know that, if only cases are recognised in an early stage, a fair proportion may be permanently relieved by operation. This fact—for fact it is—should be steadily borne in mind. Hence it may be hoped that in the future suspicious symptoms will lead to a prompt and thorough investigation, since at all events a diagnosis of cancer of the uterus in an early stage is now by no means equivalent to the diagnosis of a fatal disease. After all, if matters are allowed to go on without a proper investigation, the diagnosis will become clear enough to

the patient and everybody else before very long; and, as things are at present, the medical attendant may expect to be justly and bitterly reproached if he has not urged the great and pressing importance of a thorough examination when the first suspicious symptom or symptoms were brought to his notice.

Again, patients themselves, for similar reasons, when any suspicious local symptom occurs, especially bleeding in between the menstrual periods, or after the menopause, will not rarely enter on a course of self-deception, letting things drift on in the hope that there may be nothing serious amiss, and that the symptoms will perhaps disappear after a time. I believe that not very rarely this unfortunate delay in seeking proper advice is due to the fact that in the lay mind pain is regarded as a necessary accompaniment of cancer. If, therefore, a patient has no pain, she often comforts herself with the reflection that, whatever her ailment may be, it cannot at all events be cancer; yet, as is well known, in cases of cancer of the cervix, which constitute the large majority of those in which cancer begins in the uterus, pain only comes on late, and at a time when the disease has passed beyond the reach of radical treatment. Even in cases of primary carcinoma of the body of the uterus, though pain occurs comparatively much earlier than in cases of carcinoma of the cervix, it is by no means always a very early symptom. Bleeding is in these cases very generally the first symptom to appear.

Another feature tending in the same direction is the curious fact that many patients with cancer of the uterus for a considerable time after the commencement of the disease look quite well, having a good colour; they are often not only well nourished, but not rarely even excessively fat. In all cases of cancer of the uterus wasting and cachexia come on in time, but they are symptoms

belonging to an advanced stage of the disease. Nothing could be more fallacious than to suppose that a patient is not suffering from uterine cancer because she looks well, and maintains, or is even increasing, her weight.

Suspicious symptoms should therefore always lead to a careful physical examination.

There does seem to be some causal relation between child-bearing and cancer of the cervix. Further on I have given the results of an investigation I made on this point in one hundred cases of cancer of the cervix. For comparison I have also tabulated the number of children borne by two hundred consecutive patients, who were not suffering from cancer of the cervix. The results are striking: 47 per cent. of the patients with cancer of the cervix had had five children and upwards, while only 13 per cent. of the patients who were not suffering from cancer showed this degree of fertility. It appears to follow that the fact of having had five or more children must be regarded as constituting a predisposing cause of cancer of the cervix.

Whether a patient has had children or not, if she complains of symptoms pointing to cancer of the cervix, a careful examination should certainly be made. But if a patient complains of the symptoms in question, *and is known to have had five or more children*, the probability that she may be suffering from cancer of the cervix is thereby distinctly increased, and no effort should be spared to get her to consent to a thorough examination. In connection with the relation between cancer of the cervix and child-bearing, it would be interesting to compare the frequency of cancer of the cervix in England with its frequency in France, where small families are the rule. At present I do not think the necessary figures are available.

A SUGGESTION TO FACILITATE EARLY DIAGNOSIS.

WHAT can be done to prevent so large a proportion of cases of cancer of the uterus being diagnosed only too late?

At present we really know nothing of the causation of cancer of the uterus, and therefore at present nothing can be done to prevent the occurrence of the disease. It does seem to me, however, that something of a practical nature might be done in the way of *making women themselves familiar with the early symptoms* due to cancer of the uterus—for, after all, in a very large majority of cases the first symptom of cancer of the uterus, whether of the cervix or body, is *bleeding*. It seems highly probable that if women generally understood that the occurrence of bleeding in between the menstrual periods, or after the menopause, might be due to the development of a cancerous growth in the womb, a considerable proportion of them would lose no time in seeking competent advice. In this way a greater proportion of cases of cancer of the uterus would come under the observation of the profession at an early stage.

The question then is, in what way the better education of women on this subject can be brought about.

There are, of course, many difficulties in the way. The ideal state of things would be that every woman of adult age should be aware of the fact to which I have just referred. But though it may be impossible to reach the ideal in question, there seems to be no reason why something of a practical nature should not be attempted.

Of course, any diffusion of knowledge on a subject of

(*a*) Those where the disease begins on the vaginal portion of the cervix, or just within the external os uteri. The vaginal portion of the cervix is here taken as being that part of the cervix which comes into view when the upper part of the vagina is fully exposed by means of a Sims's speculum and retractor; and

(*b*) Those where the disease begins in that part of the cervix which is not in view when Sims's speculum is used as described.

It will be seen that this definition of the divisions of the cervix is a purely clinical one.

2. **In the Body of the Uterus,** including in the term "body" the whole of the uterus above the level of the internal os.

Thus we have:—

1. **Cancer of the Cervix.**
   (*a*) Cancer of the vaginal portion.
   (*b*) Cancer of the remainder of the cervix.

2. **Cancer of the Body of the Uterus.**

CANCER OF THE CERVIX.

Age.—It is important, first of all, to bear in mind that, although cancer of the cervix occurs most frequently in middle-aged and elderly women, it is by no means rare in women who are still actually or comparatively young. Thus I have seen not a few typical examples in patients between the ages of twenty-five and thirty, and, after thirty, cases occur frequently. Thus the fact that a patient is quite young—say, for instance, only twenty-six or twenty-seven—must never be allowed to weigh in the least against a diagnosis of cancer of the cervix.

I have investigated the age-incidence of cancer of the

cervix in eighty-two consecutive cases of advanced cancer of the cervix that were admitted into the London Hospital under my care, and in eighteen similar cases taken at random, but consecutively, from my private case-book, so as to make the investigation cover one hundred cases. The absolute results are therefore also percentages. In patients

Exceeding	20	and not exceeding		25	years of age there were found				2	cases
„	25	„	„	30	„	„	„	„	0	„
„	30	„	„	35	„	„	„	„	14	„
„	35	„	„	40	„	„	„	„	19	„
„	40	„	„	45	„	„	„	„	22	„
„	45	„	„	50	„	„	„	„	12	„
„	50	„	„	55	„	„	„	„	12	„
„	55	„	„	60	„	„	„	„	9	„
„	60	„	„	65	„	„	„	„	7	„
„	65	„	„	70	„	„	„	„	3	„
									100	cases

In decades the results read as follows:—

Patients from	20	to	30	years of age formed	2	per cent. of the total.			
„	„	30	„ 40	„	„	„	33	„	„	„
„	„	40	„ 50	„	„	„	34	„	„	„
„	„	50	„ 60	„	„	„	21	„	„	„
„	„	60	„ 70	„	„	„	10	„	„	„

So that, according to this investigation, the liability to cancer of the cervix between the ages of thirty and forty is almost the same as that between the ages of forty and fifty.

Fertility.—Cancer of the cervix is most frequently met with in those who have borne children, and in a considerable proportion of the cases the patients have had large families. At the same time, it is not a very rare experience to meet with the disease in a patient who has never been pregnant at all.

In the same one hundred cases the results as regards child-bearing are as follows:—

TABLE OF ONE HUNDRED CASES OF ADVANCED CANCER OF THE CERVIX AS REGARDS CHILD-BEARING.

13	per cent.	had	had	no	children
11	„	„	„	1	child
9	„	„	„	2	children
9	„	„	„	3	„
11	„	„	„	4	„
9	„	„	„	5	„
9	„	„	„	6	„
7	„	„	„	7	„
2	„	„	„	8	„
5	„	„	„	9	„
3	„	„	„	10	„
5	„	„	„	11	„
5	„	„	„	12	„
1	„	„	„	14	„
1	„	„	„	15	„
100					

From which it appears that 47 per cent. of thes patients with cancer of the cervix had had five childre and upwards, while only 13 per cent. had had no children.

For purposes of comparison I tabulated two separat series of one hundred cases, other than those of cancer o the uterus, taken consecutively from my private case-book

TABLE OF ONE HUNDRED CONSECUTIVE CASES OTHER THAN CANCE OF THE CERVIX AS REGARDS CHILD-BEARING.

36	per cent.	had	had	no	children
22	„	„	„	1	child
14	„	„	„	2	children
10	„	„	„	3	„
7	„	„	„	4	„
5	„	„	„	5	„
1	„	„	„	6	„
3	„	„	„	7	„
1	„	„	„	11	„
1	„	„	„	12	„
100					

From this it appears that of one hundred consecutiv cases, not cancer of the cervix, only 11 per cent. had ha

five children and upwards, while no less than 36 per cent. had had no children.

I made a similar investigation as regards a second hundred consecutive cases other than cancer, with the following result:—

TABLE OF A SECOND SERIES OF ONE HUNDRED CONSECUTIVE CASES OTHER THAN CANCER, AS TO CHILD-BEARING.

25	per cent.	had	had	no	children
19	„	„	„	1	child
16	„	„	„	2	children
17	„	„	„	3	„
8	„	„	„	4	„
4	„	„	„	5	„
4	„	„	„	6	„
3	„	„	„	7	„
2	„	„	„	8	„
1	„	„	„	9	„
1	„	„	„	10	„
100					

From this it appears that only 15 per cent. had had five children and upwards, while 25 per cent. had had no children.

Both these tables relating to cases other than cancer, while differing in detail, show very clearly, when compared to the table of one hundred cases of cancer, how much more fertile patients with cancer of the cervix have been than women not the subjects of this disease.

Thus in the two investigations of one hundred cases other than cancer of the cervix, in the first only 11 per cent., and in the second only 15 per cent., had had five children and upwards, or, striking a mean between the two tables, only 13 per cent. had had five children and upwards; while among the one hundred cases of cancer of the cervix no less than 47 per cent. had had five children and upwards.

Considering together the proportion of those who had had no children and those who had had only one child (*i.e.* those who showed a relative sterility), we find that in the

two tables of one hundred cases other than cancer of the cervix, in the first hundred cases 58 per cent. had had no children, or only one child; as regards the second one hundred cases, 44 per cent. had had no children, or only one child—that is to say, striking a mean between these tables, 51 per cent. had had either no children, or only one child.

Taking now the results shown in the table of cases of cancer of the cervix similarly, we find only 24 per cent. had had either no children, or only one child.

Looking at the table from another point of view, we find that the one hundred women with advanced cancer of the cervix had had a total of 483 children, while in each of the series of one hundred cases other than cancer of the cervix the total number of children is respectively 183 and 243; that is, that the women with cancer of the cervix had had about twice as many children as those who were not suffering from cancer.

Heredity.—There seems no reason for concluding that heredity plays any important part in predisposing to cancer of the cervix. One argument supporting this view is that considering, as we have seen, that patients with cancer of the cervix are (roughly) twice as fertile as other women, cancer of the cervix should be a very much more common disease than it actually is, if heredity were an important factor.

Symptoms.—*Bleeding.*—This is by far the most important local symptom, and for a considerable time it may be, and generally is, the only one present. It is, therefore, generally the first indication of the presence of the disease. It is impossible to over-estimate the importance of never regarding this symptom as a thing of little significance, to be treated lightly by an ergot mixture and an astringent douche without further examination. I have seen many patients with advanced cancer of the uterus, who gave a history of having been under medical care for a long period, and of having been treated merely by medicine and douches, without ever having been examined at all.

As regards the bleeding itself, sometimes an excessive loss amounting to a flooding occurs suddenly, and from

that time onwards the patient is more or less constantly losing small quantities of blood. More frequently the bleeding at first is in small quantity. The patient then has a slight discharge more or less definitely blood-stained. It may be merely pink, or brownish. Generally, however, as the disease advances, the discharge will contain a greater or smaller amount of fresh blood from time to time.

Bleeding after Sexual Intercourse is often the first symptom to attract the patient's attention to her condition. When due to the presence of a cancerous growth, and especially when that growth is situated on the vaginal portion of the cervix, the bleeding may be extremely profuse. No doubt the commonest cause of *free* bleeding after coitus is cancer of the cervix. It is a symptom that should always lead to a careful examination. There are some other conditions of the cervix, however, which lead to bleeding after coitus. Some non-malignant erosions may do so, and, again, mucous polypi of the cervix may do so. At times one meets with patients complaining of this symptom in whom no morbid condition can be found on examination to account for it, and in whom also the subsequent progress of the case throws no light on the cause of the symptom. Possibly in such cases it may be due to an extreme reflex congestion of the endometrium produced by the act of coitus. However this may be, cases in which this symptom occurs should be very carefully watched, and examined from time to time.

Among cases of cancer of the cervix, those in which the disease begins on the vaginal portion or just within the external os uteri are least likely to be overlooked, provided a careful examination is made. When, however, the growth begins in the substance of the cervix, and in the cervical canal well above the external os, it is easy to mistake the nature of the case. Yet even in these cases we are likely to have bleeding after coitus from the mechanical disturbance of the growth. If a careful examination be then made, almost certainly something will be found to indicate the nature of the case, such as a slight undue patency of the external os, free bleeding

on examination, especially if the sound be gently passed half an inch or so within the cervical canal. This will be discussed in more detail when describing the physical signs. Sometimes pregnancy may occur in a patient with cancer of the cervix. The bleeding characteristic of the disease will then most probably cause the patient to be unaware of the pregnancy for the first three or four months.

In some cases the bleeding appears to date from the time of a confinement, or miscarriage. As a rule, however, in such cases careful inquiry will bring out that there was slight bleeding for some weeks or months before the confinement or miscarriage. The important point here, again, is not to be led into treating cases with this history as cases of subinvolution without making an examination.

Discharge.—In a small minority of cases the first symptom is the presence of a purulent or muco-purulent discharge, without for a time any noticeable admixture of blood. Such a discharge is not at this period usually offensive. Bleeding of the character above-described occurs even in these cases before very long, and then becomes the prominent symptom. We are, of course, dependent on the patient for any exact account of the order in which symptoms have arisen, and therefore the accuracy of the history varies with the observing powers of the patient. Many a time after discovering a malignant growth of the cervix on examination, I have cross-examined the patient again as to the details of her symptoms. She has often then remembered that the discharge, that she had described as white when her history was first being taken, had been really streaked with blood from time to time.

The only symptoms of cancer of the cervix at an early stage are, therefore:—

1. *Bleeding*, and

2. *A Purulent, or Muco-Purulent Discharge*, which at first is not offensive.

In the large majority of cases bleeding is the earliest symptom; in a small number of cases it is preceded

for a variable time by a purulent, or muco-purulent discharge.

Later Symptoms.—*Pain* is a symptom which—contrary to the popular impression—only occurs late in cases of cancer of the cervix. It almost invariably corresponds to a stage of the disease when the growth has begun to spread beyond the anatomical limits of the uterus—that is to say, to a stage of the disease when it is impossible to remove the growth completely by any operation.

The pain in most cases gradually increases in intensity. It is of a burning, grinding character, referred to the lower abdomen, the lower part of the back, and the legs. The pain is usually worse at night. There is no advantage in dwelling on this symptom, since it belongs to an advanced stage of the case, when nothing can be done except to relieve the pain temporarily by increasing doses of morphine.

An Offensive Discharge.—It will be gathered from what has gone before that for a considerable time the discharge, whether it be muco-pus or merely blood, is not generally offensive. This point is an important one, since an offensive discharge is generally regarded both by the profession and the public as one of the prominent symptoms in cases of cancer of the uterus. And so it is, but not generally till the disease has made considerable progress. In many cases it is absent even when the case is already too far advanced for radical treatment. Thus it must never be taken that a patient is not suffering from cancer of the uterus because she has no offensive discharge. On the other hand, an offensive discharge occurs in many cases that are not suffering from cancer—in cases, for instance, of sloughing fibroid polypi there may be a most offensive discharge. The same thing occurs when foreign bodies are present in the vagina,—forgotten pessaries, tow, cotton-wool, and the like,—as well as in cases where products of conception have become putrid, and also in cases where abscesses open into the vagina, and are not adequately drained. I may instance the case of an abscess under the posterior vaginal wall about two inches up the vagina. It opened spontaneously at its *upper* part, and hence

the contents stagnated. Pressure on the sac caused the discharge of horribly offensive pus.

In advanced cases of cancer of the cervix, when the discharge has become offensive, it is generally thin and brownish, like dirty water, and very abundant. At this stage there is often for long periods little or no fresh blood in the discharge.

Physical Signs.—

Cancer of the Vaginal Portion.—Clinically cancer of the vaginal portion may be met with as—

1. **The Cauliflower Excrescence.**
2. **The Hard, Slightly Raised Plaque.**
3. **The Nodular Variety.**

Fig. 1.—Cauliflower growth of the vaginal portion, forming a sessile patch, in an early stage. The aspect is that presented when the cervix was fully exposed with a speculum.

4. **The Crater-like** or **Conical Ulcer.**
5. **An Atypical Form**—diffuse malignant infiltration of the cervix.

1. **The "Cauliflower Excrescence": A Sessile Patch.**—In this variety there is a definite projecting growth springing from the vaginal portion of the cervix. In some cases, where the disease is in an early stage, there may be a small patch, perhaps the size of a shilling, on one or other lip of the cervix, generally close to the external os, or partly within it. The patch may be sessile, and raised above the level of the cervix to the extent of one-sixteenth of an inch, with a faintly papillary surface. It is red, or reddish-yellow; it bleeds readily when gently touched, and a blunt

instrument, such as the point of the uterine sound, readily penetrates its substance when pressed against it.

The patch is generally of soft consistence.

Larger Lobulated, or Semi-Polypoid Form.—In other early

Fig. 2.—Side view of cervix in Fig. 1 after the cervix had been removed, showing the elevation of the sessile patch above the general surface of the vaginal portion.

cases the growth may be more papillary, or even distinctly lobulated, so that springing from one lip of the cervix we may have a reddish-yellow lobulated growth, one or more of the lobules having a somewhat narrow attachment to

Fig. 3 —Cauliflower excrescence, lobulated form.

the subjacent tissue, thus presenting a semi-polypoid character (Fig. 3). Still having in view comparatively early cases, such a mass as that just described may project from the lip of the cervix involved to the extent of an inch or

more. In more advanced cases there may be a mass the size of the fist springing from the cervix by a comparatively narrow attachment. The attachment may be so narrow relatively to the size of the "cauliflower" mass as to suggest to the inexperienced observer that he has a case of fibroid polypus to deal with. The spurious pedicle of these malignant "cauliflower" masses is, however, never so distinct as in cases of non-malignant polypus. It may seem fairly distinct at part of its circumference, but on

Fig. 4.—Lobulated or semi-polypoid form. Side view of the whole cervix removed by supra-vaginal amputation.

attempting to trace the pedicle all the way round, it will always be found that it ceases to be distinct at some part of its circumference, and shades off into the substance of the cervix. In cases of non-malignant polypus the pedicle can be distinctly traced throughout its circumference.

The surface of such a large "cauliflower" mass as we are considering is in outline often somewhat similar to that of the white part of a cauliflower. When seen through a speculum it is found to be chiefly of a red colour with a yellowish-white tint here and there. In places distinct sloughs may often be seen on its surface.

The mass bleeds very readily on gentle contact, and is so friable that even gentle examination often suffices to break off small portions of the growth, which then, after the escape of the blood contained in them, are seen to be yellowish-white. Generally, however, the attachment of such "cauliflower" masses is broad rather than narrow.

Mushroom-Shaped Form.—This is merely a variety of the "cauliflower" excrescence, in which both lips of the cervix are the seat of the growth. There is then found on examination a mass having the colour and other characters described, with a surface convex downwards springing from the whole cervix. The margin of the mass is found to distinctly overhang the uninvolved mucous membrane of the adjacent vaginal fornices. The os uteri may not be easy to find, but it lies somewhere about the centre of the convex mass. The whole cervix on longitudinal section will be found to have roughly the outline of an inverted mushroom; the cervix represents the stalk, and the growth the rest of the mushroom.

Punctiform Exudation of Puriform Fluid.—In some cases of "cauliflower" growth, best marked in my experience in some of those of the inverted mushroom type, the surface of the mass is not readily friable. The sound does not enter the substance of the growth on reasonable pressure; but though it does not do so in the case in question, the pressure on the surface of the growth causes the exudation of small yellowish-white drops from various points of the surface. This seems to be due to the surface epithelium retaining its general coherence, but having weak places, or apertures, scattered over the surface, which allow the soft underlying growth, or its juices, to exude on firm pressure. Whatever the explanation may be, it is an important clinical sign, because the surface of the growth is not friable in the usual way, and this might lead to mistakes as to the real character of the condition present. The growth immediately under the surface is just as friable as in the other cases already described. The same sign is found at times in cases where there is no projecting growth, but a more or less diffuse malignant infiltration of the vaginal portion of the cervix.

The following case is the one which first called my attention to this physical sign. Although, on ordinary examination, I felt almost certain the case was one of cancer of the cervix, there were some puzzling features about it. Especially curious was the fact that, while as regards shape the cervix presented an appearance very similar to what is seen in cases where there is a large cauliflower growth on both lips—something of the inverted mushroom shape—yet the surface was comparatively smooth; and, most puzzling of all, pressure with the sound or the finger did not break down the tissue. When pressed upon, however, large drops of yellowish fluid oozed up from numerous points of the surface—a sign which may conveniently be called *punctiform exudation of purulent fluid*. I had not seen this sign described elsewhere, though it is very likely others may have noticed it.

S. H., aged thirty-nine, was admitted into the London Hospital on September 9th, 1896. She had been married twenty-two years, and had had eleven children, including twins on the last occasion. The catamenia began when she was fourteen years old. Menstruation had always been regular and painless.

Present Illness.—She had not been well for the last two years. Three months ago she felt very weak, and had been losing flesh since then. About a month ago she had a severe flooding, lasting fifteen minutes. The bleeding ceased when she went to bed. She passed several clots, the largest the size of her hand. She felt very weak after this. A fortnight ago she had a similar flooding, lasting ten minutes. It was not so severe as the first. A week ago she had another attack, lasting five minutes. The hæmorrhages came on "with a rush." She had had a constant white discharge for two years. It had not been streaked with blood. She had had no pain. Her appetite had been bad for two years. Her bowels had been inclined to looseness. She had passed a great deal of water, having to get up twice at night to pass it.

Examination.—The whole vaginal portion of the cervix

was uniformly enlarged, the cervix being about equally thickened in each direction with the os as a centre. The thickness from the os in any direction was about an inch and a half. The whole vaginal cervix had a rough resemblance, as regards shape, to an inverted saucer. The surface of the vaginal portion was slightly irregular, and scattered over the surface at various points were seen drops of muco-pus. After wiping these away, pressure on the substance of the cervix caused a fresh exudation of puriform droplets at many points of the surface. Examination did not cause bleeding, nor did moderate pressure with the finger, or the sound, break down the tissue. She was examined under anæsthesia. On attempting to draw down the cervix with a volsella, it was found that the tissue of the cervix immediately underlying the surface was friable, and obviously malignant. It seemed that as soon as the volsella tore through a comparatively tough but thin superficial envelope of tissue, the underlying friable tissue was exposed. The uterus was practically fixed, so that the case was evidently too far advanced for a radical operation.

To Recapitulate.—The "cauliflower excrescence" may, therefore, take the form—

(1) Of a small raised patch.

(2) Of a lobulated, or semi-polypoid, mass of moderate size—*e.g.* the whole not larger than a walnut.

(3) Of a semi-polypoid mass the size of the fist, or larger.

(4) Of a mass like an inverted mushroom.

The colour is for the most part red, with a yellowish-white tint in places. The growth bleeds readily and freely on touching it. The discharge present may, or may not, be offensive. The growth is very friable.

In certain cases, which seem to be an exception as regards friability, pressure on the surface causes *punctiform exudation of puriform fluid.*

In the majority of cases cancer of the cervix occurs in the form of one of the varieties of the "cauliflower excrescence."

2. **The Hard, Slightly Raised Plaque.**—Sometimes the

growth may appear in the form of a sessile, slightly raised patch, which has a fairly regular surface—*i.e.* is not papillary. Such a patch feels hard. Though it feels hard, however, the sound penetrates into it when pressed against the surface. A growth which takes this form is not really a cauliflower growth at all. Its form is rather that of a hard, slightly raised plaque, and by this name it may be conveniently known.

Fig. 5.—The hard, slightly raised plaque, front view. The surface is not papillary.

Fig. 6.—The hard raised plaque, side view (after removing the uterus).

3. **The Nodular Variety.**—In this form a nodule of malignant growth appears in some part of the ring of cervical tissue immediately bounding the os uteri. In one well-marked example (Figs. 7 and 8) I have met with, it appeared as a nodule in the posterior lip close to the os, about the size of a cobnut. On cutting open the cervix, the growth was found to extend up the cervical canal for a distance of an inch by a process gradually tapering upwards. In another apparently more advanced case (though the after-history has shown it was relatively an earlier case) the malignant nodule was spherical, and about the size of the human eye (Fig. 9). It had developed from the tissue of the vaginal portion just within the os uteri. On examination with the speculum, a portion of the surface of the nodule about equal in area to that of a florin could be seen just level with the os.

The cases in which cancer of the vaginal portion

Fig. 7.—The nodular form. Photograph of the specimen after the uterus had been removed and laid open.

begins as a single distinct malignant nodule are much less numerous than those in which a "cauliflower" growth occurs. The growth is red, with a yellowish tint, and is extremely friable. It bleeds readily on examination,

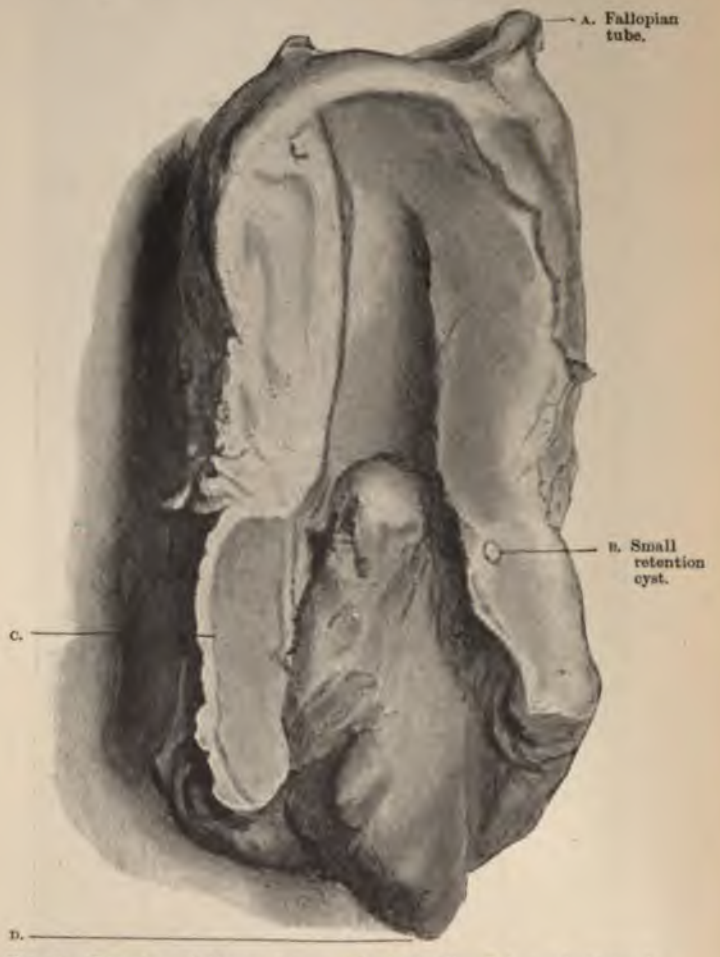


Fig. 8.—Drawing of the specimen of which Fig. 7 is a photograph.

C shows on the cut wall of the cervix the margin of the malignant infiltration, which is very extensive.

D. The pointed extremity of the malignant nodule, which, before the cervix was removed and laid open, gave one the impression that the growth was of limited extent. After opening the cervix, D is seen to be merely the lower end of an elongated malignant growth extending to the internal os, and indeed a little above it.

and a sound readily penetrates its substance. In cases of this type the malignant growth causes a considerable thickening of the affected lip, so that it may become many times thicker than the one which is normal. This is well seen when examining such a case through a Sims's speculum, and also after removal of the uterus, on making an antero-posterior section of the cervix (as in Fig. 10).

Fergusson's speculum is not at all suitable for examining cases of cancer of the cervix, especially cases of cancer of the vaginal portion. This speculum, in all except the

Fig. 9.—Nodular form, front view, as seen through the speculum.

very earliest cases, cannot be passed without coming in contact with the growth, which will then bleed freely, and prevent any useful view being obtained. Further than that, in all except the earliest cases, owing to the increased diameter of the vaginal portion, the whole of the vaginal portion with its cancerous growth cannot be brought into the tube of even a full-sized Fergusson's speculum. On the other hand, having previously ascertained the general relations of the growth with the finger, it is generally possible to pass a Sims's speculum without touching the growth to any marked extent. There will therefore be much less chance of bleeding, and a good view can generally be obtained.

4. **The Crater-Like or Conical Ulcer.**—*In Early Cases.*—In these cases a more or less extensive ulcer is found in the situation of the external os uteri, extending a variable distance up the cervical canal. The cavity in early cases is generally roughly cone-shaped. The wider

Fig. 10.—Antero-posterior mesial section of uterus removed by vaginal hysterectomy. The posterior lip and wall of the cervix are occupied by a large malignant nodule (glandular carcinoma). The thickening of the affected lip is well seen. This lip is four or five times as thick as the unaffected lip.

part of the cavity is below, and in early cases is still bounded by a ring of cervical tissue. At such a time, on examination, one finds a cavity of the shape described in the situation of the external os and lower part of the cervical canal that will admit the finger for perhaps half

an inch or more. The walls of the cavity are formed of hard tissue having an irregular surface, and not unfrequently some soft patches of growth may be met with springing from the generally hard surface. These do not project far into the cavity, merely forming a short fringe on parts of the hard wall. The fact that the widest part of the crater-like ulcer is in early cases below shows that the growth originated about the level of the external os, since the oldest portion of the growth would naturally be that to undergo necrosis first. When the surface of the ulcer can be seen, it is found to be of a grey or blackish-grey colour, with here and there yellow patches.

Fig. 11.—Crater-like ulcer, early stage, front view.

Fig. 12.—Crater-like ulcer, early stage, side view. The same specimen as represented in Fig. 11 after removal of the whole cervix by the supra-vaginal amputation.

At the lower margin of the ulcer a narrow hard ridge of a red colour is often seen immediately outside the ulcer on the surface of the vaginal portion, indicating the peripheral extension of the growth. This ridge is only slightly raised above the general surface.

In more Advanced Cases.—Hitherto what has been said applies to early cases, where the ulcer is still definitely bounded by true cervical tissue. If a transverse segment of cervical tissue at the level of the external os be considered, the growth spreads from the centre towards the circumference, the older central

portion of growth melts away, and produces a cavity, and successive rings of growth, each larger and larger, die, and similarly disappear. Thus the cavity in the centre of the segment under consideration grows larger and larger.

The same process is in operation at each transverse section of the cervix affected by the conical ulcer. Now as the process continues, the malignant growth spreading at the periphery and breaking down in the centre, a time comes when all the lower part of the cervix, all the vaginal portion, is completely destroyed. In examining an advanced case of this description we find a hard ring of tissue at the upper part of the vagina, irregularly circular, and of varying diameter. The ring of tissue may be of the apparent thickness of a quarter of an inch or more. This ring of tissue is apt to be mistaken by the inexperienced for cervical tissue. It really, however, consists of the vaginal wall and the connective tissue subjacent to it, which have both, the connective tissue especially, become infiltrated by the advancing malignant growth.

Within the circle of this hard ring there is an opening which is found to lead into a large cavity, often of much larger diameter than the opening leading to it. In this stage there is little or nothing of the cervix remaining, and the walls of the cavity are chiefly formed by the connective tissue normally surrounding the supra-vaginal cervix, which has become infiltrated by the malignant growth. At this stage one or more somewhat papillary projecting masses of growth (small "cauliflower" growths) may be seen springing from the margin of the opening leading into the malignant chasm; and by this time the growth will have spread downwards, either forming a growth springing from the surface of the vaginal walls, or more frequently the epithelial surface of the vagina may be apparently normal, but the malignant infiltration has spread downwards in the submucous connective tissue. The corresponding portion of the vagina is hard, rigid, and inelastic.

5. **An Atypical Form.**—There is a less typical form in which the vaginal portion, as defined on page 8, is

affected by a malignant growth. A case is not rarely met with somewhat as follows: There is a history of metrorrhagia, perhaps bleeding after coitus; and on examining, no ulcer, no projecting growth, nodule, or patch is to be seen or felt. but the diameter of the vaginal portion is apparently increased. A sound passed gently just within the external os causes very free bleeding, and sometimes pressing in one or other direction against the tissue in that position will cause exudation of a small drop of puriform material from a point in the immediate proximity of the external os.

Often in such cases the mobility of the cervix, both as tested by the finger, or by attempting to draw down the cervix with a volsella, is found diminished to a variable extent. In fact, in many such cases the disease has spread to the connective tissue under the vaginal wall at the level of the vaginal reflection, so that the case is an advanced one. It is at such a stage impossible to say whether the disease began in the vaginal portion, or in the supra-vaginal cervix, and, clinically, the distinction is of little importance. The point to bear in mind is that the case may be one of cancer of the cervix, though there is nothing apparently wrong with the surface of the vaginal portion on ordinary examination, no "cauliflower" growth, no patch, no nodule, no obvious ulcer.

In all the early cases of cancer of the vaginal portion the uterus is freely movable. As the infiltration spreads to the connective tissue round the supra-vaginal cervix and to the vagina, or to the submucous vaginal connective tissue, the uterus becomes less and less movable, and finally it becomes completely fixed.

The body of the uterus is not enlarged by a cancerous growth affecting the cervix. The sound (which it is not, however, generally desirable to use) will, it is true, pass a slightly increased distance, but this is due to the elongation of the cervix itself, caused by the malignant growth, and not to any enlargement of the body of the uterus.

Cancer of the Supra-Vaginal Cervix.—It may be said

at once that the physical signs in cancer of the supra-vaginal cervix are in early cases much less obvious than when the disease begins in the vaginal portion. There is much more chance of overlooking an early case beginning in the supra-vaginal cervix, and for this reason, that on examination the vaginal portion of the cervix may appear normal, or very nearly so. Not unfrequently, however, there is some slight degree of change to be found at the external os on careful examination. Thus it may seem more patulous than normal, and the finger pressed firmly into the os may detect some papillary growth just within reach in the cervical canal. This was the condition found on examination in the case from which the uterus represented in Fig. 13 was removed. On laying open the uterus, the cervix was found to be a mere shell, lined with papillary malignant growth extending up to the internal os.

Again, the shape of the os may be peculiarly irregular—irregular, that is, in a way not explained by the ordinary lacerations that occur in labour, and so alter the regularity of the normal opening. In such a case, if the patient is examined under anæsthesia in a good light, on drawing down the cervix with a volsella, and strongly everting the lips of the cervix by a volsella on each lip, something of the growth may be seen within the cervical canal.

In other cases, on careful examination as described, it will be found that what at first sight appeared to be a fairly normal external os is really an opening of somewhat irregular shape, the irregularity having been caused by a slight degree of ulceration taking place round the os. The finger—or, if the opening will not admit the finger, the sound—will ascertain that the cervical canal is unusually roomy; in fact, somewhat excavated by the breaking down of a growth beginning in that position. Through the speculum, with the lips of the cervix everted by volsellæ, a small part of the ulceration higher up may come into view. It is in such cases especially that the malignant growth early spreads outwards and through the walls of the supra-vaginal cervix, and infiltrates the connective tissue outside the cervix, causing a feeling of "thickening" laterally on

one or both sides, and preventing the cervix being freely drawn down to the vulva. In all such cases there is a history of a persisting, more or less blood-stained, inter-menstrual discharge.

Clinically, cancer of the vaginal portion cannot always

Fig. 13 represents a uterus removed by vaginal hysterectomy for cancer of the cervix, and laid open. There is a very extensive papillary growth occupying the whole of the cervical canal. Nothing of it projected at the external os before the uterus was laid open. On physical examination the external os was a little patulous, and the finger pressed firmly up could just feel a little of the papillary growth.

be distinguished from cancer of the supra-vaginal cervix. Thus, on examination, a limited growth may be seen at and around the os uteri, having typical malignant

characters, and so far as clinical examination goes the case may thus appear to be one of early cancer of the vaginal portion. Thus in the case corresponding to Fig. 13 the extensive character of the growth could not be recognised till the uterus was laid open after removal. Yet in many such cases, if the uterus be removed, it will be found that there is an extensive malignant growth involving the walls of the cervix above the vaginal portion, and extending a variable distance up the cervical canal, perhaps up to the internal os, or even beyond it, and well into the cavity of the body of the uterus. This was so in the case from which the specimen represented in Figs. 14 and 15 was removed. Thus Fig. 14 shows the

Fig. 14 shows the vaginal portion of the uterus represented in Fig. 15 as it appeared on examination with the speculum. The os is occupied by a small portion of the malignant growth. This appearance, taken alone, would rather suggest that the disease was in an early stage—an impression corrected by looking at Fig. 15.

appearance of the cervix as seen in the speculum. This, by itself, might indicate quite an early stage of the disease. Fig. 15, which represents the uterus laid open after removal, shows that the growth has involved about half the endometrium as well as the whole cervix. Such cases are generally to be regarded as primarily cancer of the supra-vaginal cervix, in which the growth has spread downwards, so that some portion of it shows at and around the external os. For had the growth been primarily a cancer of the vaginal portion, most of the growth would usually be on the vaginal portion, and

therefore well seen on examination with the finger and speculum.

Sarcoma of the Cervix.—This form of malignant disease

Fig. 15 represents the uterus (of which the vaginal portion is shown in Fig. 14) removed by vaginal hysterectomy, and laid open. The growth is seen to involve the whole cervical canal, and about half of the endometrium as well.

affects the cervix much less frequently than carcinoma. Clinically, in many of the cases, sarcoma of the cervix cannot be distinguished from carcinoma. In certain cases,

however, the sarcomatous growth assumes a form which can clinically be readily differentiated from carcinoma. In the variety referred to, known as "grape-like" sarcoma of the cervix, the appearances are characteristic. I have not met with a case myself, and therefore quote the description of a case given by Cullen, following J. Whitridge Williams. "In a patient seventeen years old the anterior cervical lip was thickened and enlarged, while covering its margins and surface were oval, yellowish-brown outgrowths, one or two centimetres in length. These looked like transparent cysts, were readily crushed, and contained a thick, sticky fluid. The girl returned nine months later with the entire vagina filled by a growth, which resembled a hydatidiform mole. Weigert, who examined the tissue microscopically, found these cyst-like masses covered by a single layer of cylindrical epithelium, while internally they were composed of large, round, spindle-shaped, and branching cells, separated from one another by clear stems, which were traversed by fine threads."*

DIAGNOSIS OF CANCER OF THE CERVIX.

It may be said at once that the diagnosis of cancer of the cervix, especially in cases of cancer of the vaginal portion, which constitute the majority as far as my own experience goes, presents generally little or no difficulty, provided the significance of the symptoms be realised, and a careful physical examination be made. No doubt there is a stage, when there are as yet no symptoms, when the nature of the case would be recognised if it only happened that for some reason or other an examination were made. This has occurred in my own practice. A lady who had had a fibroid polypus removed by me some months previously, came to see me just to satisfy herself that everything was right. She was complaining of no symptoms, no discharge, no bleeding. Yet on examining I found a small patch of malignant growth on the anterior lip of the cervix. This was not the position where the fibroid polypus had been attached.

* Cullen, *Cancer of the Uterus*, p. 198.

As a rule, however, no examination will be made till symptoms have arisen, and by that time in all probability the disease will have made considerable progress. There will therefore, as a rule, be some of the physical signs already described, and these will be so well marked as to leave no doubt as to the nature of the case. It is well known that cases in which a skilled observer feels a doubt as to the character of a given condition of the cervix generally turn out to be non-malignant. Still, it is desirable to enumerate the conditions most likely to be mistaken for cancer, and to consider how they may be differentiated from it.

Erosion.—So far as *colour* is concerned the florid red characteristic of the various kinds of erosion is very similar to that of malignant growths of the cervix so situated that the colour of the surface is readily brought into view. Often, however, a yellowish tinge is seen over portions of the malignant growth that is not found in erosions. Of course, when the surface of a malignant growth has begun to ulcerate, the colour is no longer red, but greenish, or grey. The main point, however, by which non-malignant erosions may be distinguished is that a blunt instrument such as the sound will not penetrate the tissue in the case of an erosion; while, on the other hand, in the case of a malignant growth it will almost invariably do so. The rare cases of cancer in which the sound will not penetrate the tissue readily have been already alluded to. They are those in which, however, another valuable sign of cancer is present—namely, that though the sound will not penetrate the tissue when pressed against it, the pressure causes the exudation of minute yellowish-white drops of puriform fluid from various points of the surface. This never occurs with erosions.

Symmetry.—A minor point of difference between erosions and malignant patches is as regards the position of the patch. An erosion generally tends to be bi-laterally symmetrical as regards the middle antero-posterior line. Thus, if the erosion be on the anterior lip, there is generally as much of it to the left of the middle line as to the right. This symmetry is generally the exception rather

than the rule in the case of patches of malignant growth on one or other lip of the cervix, though it may occur.

Again, a malignant growth at all likely to be mistaken for an erosion is generally well raised above the surface, and frequently has a sharp, somewhat sinuous outline. The growth very generally overhangs the neighbouring apparently healthy tissue.

What has been already said applies to the differentiation of an erosion from a malignant growth at a single examination. Of course, watching a case for a short time would very soon decide the matter. An erosion remains stationary, or may perhaps improve, or diminish in size, or disappear under treatment, such as the application of carbolic acid to the erosion and cervical canal, or of a strong solution of sulphate of copper. Such treatment will have no effect on a patch of malignant growth: it will simply go on extending.

Again, while it is true that some erosions bleed on examination, or on coitus, yet the bleeding is trivial as compared to that which occurs under similar circumstances in the case of a malignant growth.

Thus it will be seen that an erosion of the cervix can generally be very readily distinguished from a malignant patch. No stress at all must be laid on the general condition or appearance of the patient. For, as already mentioned, a patient with cancer of the cervix may, and generally does, look quite well till an advanced stage in the case, when the diagnosis is no longer a matter of any difficulty.

Warty Growths on the Cervix.—An isolated warty growth on the vaginal portion is almost certainly of a malignant nature. In some cases, however, where there are warts on the external genitals, and more or less generally over the whole vagina, warts on the cervix are also present. When this is the case, the warty patches on the cervix may very confidently be considered to be non-malignant, and merely a part of the general condition existing lower down. I have seen several such cases.

Fibroids: Fibroid Polypus.—The kind of fibroid most likely to be mistaken for a malignant growth is a sloughing

fibroid polypus. Some of the symptoms are the same in the latter condition as in cancer of the cervix. Thus there are often sharp attacks of hæmorrhage, and a more or less constant blood-stained vaginal discharge, and also when the fibroid polypus is sloughing the discharge is of course offensive. The kind of malignant growth for which a sloughing fibroid polypus is most likely to be mistaken is a large, or fairly large, "cauliflower" growth filling the upper part of the vagina, and perhaps seeming to spring from the cervix by a kind of pedicle. The points of distinction are—*first*, that the general outline of a sloughing fibroid polypus is much more regular than is that of a large "cauliflower" mass: *again*, the colour of the mass in the fibroid polypus is uniformly greyish-yellow, whereas in the case of a cancerous mass, though there may be grey or yellowish patches where the surface is sloughing, there will most likely be a good proportion of the surface still of a deep red colour. *Again*—and this point can generally be best made out if the patient is examined under anæsthesia—the attachment of the mass in the two cases is different. A large "cauliflower" growth of the kind in question may, as regards a portion of its attachment, seem to have a fairly definite pedicle: but this can never, in the case of growths springing directly from the cervix, be traced distinctly all the way round. It may be distinct for perhaps a third or a half of the circumference of the attachment, but beyond that the attachment is quite indefinite, and shades off into the general substance of the cervix. In the case of a fibroid polypus, the pedicle can be made out to be quite definite throughout the whole of its circumference.

Another point of distinction is the friability of the mass. Sometimes a sloughing fibroid polypus may allow the sound to penetrate its substance when pressed against it for a little distance; but pieces are not easily broken off the polypus by the examining finger, as is the case with a malignant growth.

Of course, if there were still any uncertainty, a small portion of the growth could easily be removed for microscopic examination. As a rule, however, attention to the

various points enumerated above is quite sufficient for a correct diagnosis.

Submucous and Interstitial Fibroids of the Cervix.—All fibroids of the cervix are much rarer than fibroids occurring in the body of the uterus.

As regards a submucous fibroid of the cervix—*i.e.* one where the greater part of the fibroid projects into the cervical canal and towards the external os uteri—it is just possible that the growth might be mistaken for cancer. As a rule, however, with a submucous fibroid of the cervix (provided it is entirely cervical in origin, and does not spring in part from the body of the uterus) there will be no menorrhagia or metrorrhagia. As regards physical signs, the fibroid is firm and leathery in consistence; it is not friable.

As regards interstitial fibroids of the cervix, they are not likely to call the attention of the patient till they have reached a fairly large size. The physical signs are rather peculiar, and may mislead any one who has not met with such cases before. Thus I have known such a case diagnosed as advanced cancer, for which nothing could be done. What is found is as follows: The external os is widely patulous, and supposing, for the sake of argument, that the interstitial fibroid is in the posterior wall of the cervix, the anterior lip is much thinned, and is crescentic, with the concavity of the crescent directed backwards. The posterior lip of the cervix as such appears to be absent. This is due to the cervical tissue of the posterior lip being uniformly spread out over the surface of the convex underlying interstitial fibroid. In such a case the mass is fixed, and in that respect resembles what is found in advanced cancer. The interstitial cervical fibroid is not friable (unless it is sloughing), and probably calls attention to its existence by pressure symptoms (causing, especially, troubles connected with micturition). Examination of the abdomen in such cases often enables one to feel the body of the uterus, not enlarged, and perched on the top of the cervical fibroid. I have described several cases of this kind elsewhere.*

* *Trans[illegible] London*, Vol. XXIV. (1901), p. 106.

When an interstitial cervical fibroid sloughs, as it may do in rare cases, an opening through the lip of the cervix involved may be formed. Then the sloughing mass protrudes through the opening. As we then have a friable, horribly offensive mass occupying the upper part of the vagina, the resemblance to some cases of cancer of the cervix is fairly close. I have myself had a case of this kind. An interstitial fibroid of the posterior wall of the uterus and cervix sloughed; then an opening formed in the substance of the posterior lip, and the sloughing mass protruded through the opening. It was then suspected by the practitioner in attendance that the patient had developed cancer of the cervix. It was quite clear on examination, however, that the sequence of matters was as described. The external os was widely open, the anterior lip very thin and crescentic. The sloughing mass was situated in the posterior wall of the cervix, and also partly in the posterior wall of the body of the uterus. Such a case is extremely rare. I have recorded it fully in the *Lancet*.*

Mucous Polypi and Mucous Tumours of the Cervix.—Mucous polypi are small: an average size is that of a raisin. They are bright red, and distinctly pedunculated. There are often two or three present in the same case. They are generally attached just within the external os, but protrude from it into the vagina, so that they appear when a speculum is used, and they may also be felt with the finger. Sometimes a mucous polypus attached a little way up the cervical canal may at one time be found projecting from the external os, and at another time it may have retreated within the canal, so that it can neither be felt nor seen. The diagnosis of a mucous polypus from a small cancerous growth attached to the vaginal portion, or just within the external os, is generally not at all difficult. In the case of a mucous polypus its attachment is narrow; it may bleed slightly on contact, but the bleeding is never so profuse as that which occurs with a cancerous growth. Mucous polypi not unfrequently cause slight bleeding after coitus. Here again the bleeding is never so free as in cases of cancer.

* *Lancet* (1900), Vol. I., p. 444.

I have mentioned mucous tumours of the cervix. What I mean is that there are at times small tumours, the size of a pea, or as large as a cobnut, on the vaginal portion that are not distinctly pedunculated, and cannot, therefore, be called mucous "*polypi*," but which are nevertheless of the same structure as the ordinary mucous polypus. These sessile tumours are much more likely to be mistaken for cancer than are mucous polypi themselves. The tumours in question bleed slightly on contact, and so cause bleeding after coitus. Here, again, the bleeding is not so free as in the case of growths really malignant; also, these sessile tumours rarely cause any bleeding except when actually touched, so that there is no history of intermenstrual bleeding. Such tumours are generally so small that, except by excising the piece of the cervix from which the growth projects, it is almost impossible to remove them for microscopic examination. A sufficiently good way to decide the matter is to touch the small growth with a cautery; if the growth is only the size of a pea, the point of the sound heated in a spirit-lamp is sufficient for the purpose. If the little growth is non-malignant, this treatment will be effectual, and after the separation of the small slough produced by the cautery, the wound will heal soundly. Of course, if the growth were malignant, the treatment mentioned would be useless. The growth would soon reappear, and the symptoms, especially bleeding on contact, would return. I have known cases where these sessile mucous tumours have produced great anxiety on the part of the patient for fear she should be suffering from cancer, and even some uncertainty for a time on the part of experienced practitioners.

Syphilitic Affections of the Cervix.—Chancre on the cervix has been met with, but is very rare. Other manifestations of syphilis would either be present, or soon show themselves. The result of constitutional treatment with mercury would also be a valuable guide as to the true nature of the case. Practically, difficulty in diagnosing cancer of the cervix is rarely caused by conditions of the cervix produced by syphilis.

Tubercular Disease of the Cervix.—Primary tuberculosis

of the cervix is extremely rare. I have met with one case of it in which the symptoms and signs so closely simulated those of cancer of the cervix that I had no doubt the case was one of cancer of the cervix, and I performed vaginal hysterectomy. Subsequent microscopic examination of the tissues of the cervix resulted in finding that the condition of the cervix was due to tubercle. The patient did well, and remains well at the present time (November, 1901), nearly six years since the operation. Such a case is, as already mentioned, very uncommon, and I cannot see any means by which it can be distinguished from cancer, except by removing a portion of the cervix, and examining it microscopically. The mistake in this case, however, was of comparatively little importance, since, no doubt, removal of the uterus was the best treatment. It will be seen from the following notes that the patient had bleeding in between the periods, and bleeding on coitus. On examination, there was enlargement of the cervix, with profuse bleeding when the supposed growth was touched; also the sound readily penetrated the substance of it on moderate pressure.

Case of Primary Tuberculosis of the Cervix.

Mrs. S. T., aged thirty-six, a housekeeper, was sent to me by Dr. Haslip on January 21st, 1896.

She had been married eight years, but had never been pregnant. She said that she had suffered from a white vaginal discharge for years, even before her marriage. During the last nine months, however, there had been bleeding noticed in between the periods. The discharge had been slightly offensive. The first time the irregular bleeding occurred was nine months previously, after coitus. Besides the blood-stained inter-menstrual discharge, she had noticed "pieces of skin" in it from time to time, especially after the menstrual periods. For the last three months she had used a syringe for the vagina, and on two occasions passing in the pipe of the syringe had brought on bleeding. She had had pain in the left iliac region for five months, and also a dull feeling round the

lower part of her body. The pain, however, did not seem to have been at all severe, and it had not been constant till a week before she came under observation. The catamenia had been regular every calendar month, lasting three to four days, and attended with very little pain. The amount lost had, if anything, been recently less than usual. Three years ago she had bronchitis and influenza badly, and she had bronchitis again in 1895. Before she was married she had gastric ulcer and hæmatemesis. But, as a rule, she had enjoyed good health until about the

Fig. 16.—Primary tuberculosis of the cervix. Uterus removed by vaginal hysterectomy. Papillary projections are seen at the external os and extending up the cervical canal to the internal os. Before the uterus was laid open the external os was more patulous than normal.

last twelve months, when she began to get weak, disinclined for exertion, and to suffer from the local symptoms already mentioned. She had not definitely lost flesh.

As regards the family history, one of her aunts died of consumption: that is the only case she knew of in the family.

Examination, January 21st, 1896.—Nothing abnormal

was detected on examination of the abdomen. On vaginal examination, the external os was distinctly more patulous than usual, and a soft friable growth was felt within it in the cervical canal as far as the finger could reach. The growth bled very freely on touching it. Through the speculum the growth was seen to be somewhat raised, and most of it was on the anterior lip and to the left, though there was some all round the os. The uterus

Fig. 17.—Primary tuberculosis of the cervix. Low power. The figure represents a portion of the mucous membrane of the cervix uteri thrown into ridges, and thickened by inflammatory growth. In one of these ridges is embedded a group of grey tubercles with large well-formed giant-celled systems.

bi-manually seemed to be about normal in size, and freely movable. From the signs and symptoms above-mentioned, I had no doubt at the time that the case was one of malignant disease of the cervix, and I advised the patient to have the uterus removed. Accordingly she was admitted into the London Hospital under my care on January 24th, 1896.

On January 27th the patient was anæsthetised, and a careful examination made. The result confirmed what had been found at the previous examination. The whole appearance was, as far as I could judge, identical with that met with in many cases of cancer of the cervix. The supposed "growth" broke down very readily when pressed on with the sound. The case seemed to be one of cancer of the cervix suitable for vaginal hysterectomy.

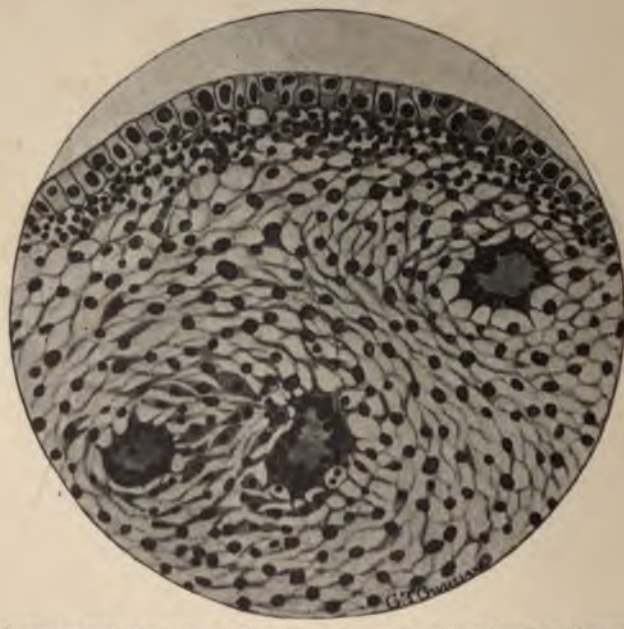


Fig. 18 represents the top of the ridge shown in the preceding figure, with its columnar epithelium and cellular tissue. Three large poly-nuclear giant-cells are represented. (The description of this, and of the preceding figure are by Mr. Targett, for the Clinical Research Association.)

Operation, January 30th, 1896.—The uterus was removed by vaginal hysterectomy. The cut margins of the vaginal walls were freely seared with Paquelin's cautery. Pressure forceps were used to secure the vessels in the broad ligaments, and were left on. An iodoform gauze drain was passed between the forceps, so as to project about an inch into Douglas's pouch. The forceps were all

removed at the end of the third day, and the subsequent progress of the case was uneventful.

On February 20th an examination was made. There was a healthy-looking granulating wound, about half an inch in diameter, at the top of the vagina. The patient went home on February 22nd.

I have seen this patient several times since the operation, and examined her. The scar at the top of the vagina was on each occasion quite healthy, and she herself was in good health. I wrote to her recently to know how she was, and she replied in a letter dated November 20th, 1901, that she "enjoys fairly good health and has had no return of the bleeding." She occasionally has bronchitis and slight "congestion."

In looking up the literature on tuberculosis of the cervix, I find that it is generally admitted to be exceedingly rare, and that, when it has been observed, it has almost always been in cases where there was general tuberculosis. The only case of primary tuberculosis of the cervix without general tuberculosis that is mentioned, for instance, in Cullen's large work, is one observed by Kaufmann at a post-mortem examination. In that case there was no general tuberculosis. The patient was seventy-nine years of age. Another case is mentioned in Pozzi's work on *Gynæcology*. This was in essential respects like the one I have just described. The case was believed to be one of cancer of the cervix, and vaginal hysterectomy was performed.

As regards the possibility of mistaking tuberculosis of the cervix for cancer, some writers appear to think that little difficulty is likely to be found in distinguishing between them. Cullen, however, says: "This rare condition [tuberculous ulceration of the cervix] clinically might readily be mistaken for squamous-celled carcinoma of the cervix," an opinion which the experience of my own case, and of that related by Pozzi, obviously confirms.*

Laceration of the Cervix, with Eversion of the Cervical Mucous Membrane.—This condition in some cases has

* This case formed the subject of a paper which I read before the Obstetrical Society of London, on April 2nd, 1902.

led to a suspicion that the patient was suffering from cancer. An experienced observer has, however, no difficulty in determining the question. The vaginal cervix appears much increased in diameter, and owing to the laceration on one or both sides, or elsewhere, the cervical mucous membrane is everted, and thus presents an extensive red area on inspection; also, there is more or less discharge, but it is generally not blood-stained. Again, there is hardness, owing to the cicatricial tissue in the neighbourhood of the laceration. Also, there is often a good deal of hypertrophy of one or both lips of the cervix. Still there is no bleeding on examination, or a mere trace of it. Further, if the hypertrophied and lacerated cervix is exposed with a Sims's speculum, it is often possible with tenacula to pull the separated lips of the cervix together, and thus restore for the most part the original appearance of the vaginal portion. When this is done the previously exposed cervical mucous membrane is no longer visible. Besides, there is no friability of any of the tissue.

Hypertrophy of the Vaginal Cervix.—This has to some extent been dealt with under the preceding heading; but it may occur apart from any laceration. Hypertrophy of one or both lips is commonly met with in cases of uterine prolapse, though at times it is found independent of prolapse. Attention to the history and signs will easily enable a correct diagnosis to be made. There is no inter-menstrual bleeding, or bleeding on coitus; the colour of the hypertrophied lip is normal, and not bright red; no bleeding is caused on examination, and there is no breaking down of tissue on pressure.

Cysts of the Cervix.—The small retention cysts that are commonly seen on the surface of the vaginal portion, called *ovula Nabothi*, are not very likely to be mistaken for cancer. As generally met with, they are pearl-coloured elevations occurring on various parts of the mucous membrane of the vaginal portion of the cervix. They feel hard. Curiously enough, they were formerly mistaken for tubercle of the cervix. When exposed to view by the speculum, their nature is obvious from their

appearance. If pricked with a needle or sharp hook, a drop of mucus exudes, and the hard prominence previously felt disappears.

Larger cysts, at times met with in the cervix the size of a cobnut, may cause an irregular projection on the vaginal cervix. Such a cyst might possibly be mistaken for a nodule of malignant growth. Still, its surface is quite sound, and not friable; and, besides, puncture, as in the case of the *ovula Nabothi*, will at once clear up any doubt as to its nature.

Ulceration of the Cervix.—In those cases of prolapse of the uterus where the cervix, together with more or less of the inverted vaginal walls, comes outside the vulva—in other words, in cases generally included under the name *procidentia uteri*—extensive ulceration may occur. The ulcers, however, are chiefly on the vaginal wall, though the lips of the cervix are generally also involved. These ulcers are due to friction of the exposed parts against the clothes. They are often of large size, and have a punched-out appearance. The depth of the ulcer corresponds to about the thickness of the vaginal mucous membrane. These ulcers do not bleed at all freely on touching; they may cause a slightly blood-stained discharge on the patient's clothes, but not free hæmorrhage. The tissue, whether of the lips of the cervix, or of the floor of the ulcer on the vaginal walls, is not friable.

Apart altogether from *procidentia uteri*, in some cases where the patient has worn a pessary too long, especially an ill-fitting pessary, it may have so pressed on the vaginal portion of the cervix as to cause ulceration. I have seen several examples of this, and at first the appearance is very suggestive of malignant disease. There is an ulcer on the cervix, which may bleed rather readily on examination. There is, however, no friability. The sound pressed against the floor of the ulcer does not penetrate the tissue bounding it. Besides, removal of the cause, and the use of a soothing vaginal douche, such as weak lead lotion, will cause the appearance of the ulcer to improve, and the ulcer will heal altogether in a short time.

Pelvic Peritonitis.—This would not seem to be a condition very likely to be mistaken for malignant disease. I have seen several mistakes, however, in the opposite direction—*viz.* malignant disease mistaken for pelvic peritonitis. There are some points of similarity between certain cases of advanced cancer of the cervix and pelvic peritonitis. Thus in both cases the uterus is fixed, and hard masses are felt at various parts round it. The bleeding present is set down to the peritonitis, in certain cases of which metrorrhagia is not uncommon. The mistake is still more likely to be made when the symptoms have dated from a confinement or miscarriage.

Careful examination will, however, decide the question without much difficulty. The finger recognises more or less extensive ulceration (excavation) in the situation of the external os uteri and of the cervical canal, and the tissues bounding the ulcer are friable at some part. With the speculum the lips of the cervix (if they remain, or, at least, the tissues bounding the entrance to the excavation) may be separated by tenacula, so that often something of the ulcer will come into view. Finally, the sound will penetrate some of the tissues bounding the entrance to the cavity. The kind of case likely to be mistaken for pelvic peritonitis is one where the cancer has begun in the cervical canal and produced little obvious change in the immediate neighbourhood of the external os.

The Directions in which Cancer of the Cervix Spreads.—Extension to the vagina is very common. This is especially likely to occur early in cases where there is a growth of the "cauliflower" type (squamous epithelioma), which tends to advance directly along the surface of the vaginal wall nearest to it, apparently by a process of direct infection; and isolated patches, say of the diameter of a shilling, covered with a soft papillary growth, are found on the vaginal wall in cases of cauliflower growth of the cervix at points where this cauliflower mass has lain in contact with the vaginal mucous membrane. Often, too, in such cases, on the vaginal wall, say half an inch from the apparent limit of the growth on the surface, isolated little shot-like, hard nodules, due to malignant infiltration of

the connective tissue under the surface of the mucous membrane, may be felt. They are of very evil omen as regards recurrence, if met with in the connective tissue round the cervix in the course of a vaginal hysterectomy. We may say that the disease chiefly tends to involve

(1) The surface of the vaginal mucous membrane, and

(2) The connective tissue round the cervix, and under the mucous membrane of the vaginal fornices.

This tendency to involve the connective tissue round the cervix makes it evident how the malignant infiltration spreads to the connective tissue of the broad ligaments, of the utero-sacral ligaments, and to that between the bladder and the supra-vaginal cervix.

As a rule, in cases of cancer of the cervix the disease has but little tendency to spread to the body of the uterus. Generally, when it has done so, it has already extended much more extensively to the vagina or connective tissue round the cervix, or to both. There are, however, some cases which are exceptions to the general rule—that is to say, there are cases where the most careful examination fails to find any evidence of extension to the vagina or connective tissue, and yet where, after the uterus is removed and laid open, the malignant growth is found to have extended well up into the endometrium (see Figs. 14 and 15).

Infection of Lymphatic Glands.—The lymphatics of the cervix run to the iliac glands, which lie in the neighbourhood of the termination of the common iliac artery. The lymphatics of the body of the uterus run to the lumbar glands, which lie on the aorta about the level of the lower end of the kidney. (Cullen.)

It is said also that lymphatics from the upper angles of the uterus on each side run to the inguinal glands.

From the point of view of treatment it is fortunately the case that the lymphatic glands are not generally infiltrated by cancer, either of the cervix, or body of the uterus, at all early in the course of the disease. The contrary view has been, and is, held by some writers (among others by Dr. Jacobs, of Brussels)—namely, that in almost every case of cancer that comes before us

clinically, the corresponding lymphatic glands are already infected, and therefore, following out the logical conclusion of this view, they recommend that an attempt be made to remove the lymphatic glands in all cases. As this can only be done by abdominal section, it of course comes to this, that on this view every case of cancer of the uterus, whether of the cervix, or of the body, should be submitted to an abdominal section, and the lymphatic glands removed. If the glands were always early infected, this would obviously be the right routine practice: but there is strong evidence that the glands are not, as a rule, early infected. Taking my own cases, in which a radical operation for cancer of the uterus has been performed, and in which the growth has been proved by subsequent examination, both by myself and independently, to be cancer, there are several such cases which have remained many years free from any return of the disease, and some of them still remain free. Now it is obvious that had the glands been affected early in any of these cases, as no glands were removed at any of my operations for cancer of the uterus, this result could not have been obtained. My opinion is, that by the time the glands are infected the disease has already spread so much either to the vaginal walls, or to the connective tissue round the cervix, and on to that of the broad ligaments and utero-sacral ligaments, that any radical operation is contra-indicated. For even if the infected glands be removed, the infiltrated connective tissue in the situations mentioned, and especially about the ureters and bladder, cannot be completely removed; and unless all infiltrated tissue be removed, no permanent, or even temporary, benefit worth mentioning can be obtained by any operation.

As regards the infection of the inguinal glands, I have never seen them altered so as to be recognised as enlarged clinically in cases of either cancer of the cervix, or cancer of the body of the uterus, except in very advanced cases, where the disease had spread to the lower part of the vagina, the lymphatics of which, of course, go to the glands in the groin.

CHAPTER II.

TREATMENT OF CANCER OF THE CERVIX.

CASES of cancer of the cervix, from the point of view of treatment, are divided into "early" cases and "advanced" cases. By "early" cases I mean those in which careful physical examination leads one to think that a radical operation offers at least some chance of permanent benefit, or, at all events, some chance of a reasonably long interval between the operation and a return of the symptoms. By "advanced" cases I mean those in which physical examination reveals definite extension of the disease beyond the anatomical limits of the uterus in some one of, or in all, the directions in which the disease tends to spread. In these cases no radical operation offers any chance of permanent benefit, and rarely even any interval worth speaking of in which the patient is relieved of her symptoms. It is true that sometimes when there is a very limited extension to one or other vaginal wall, it is possible to remove the affected vaginal wall sufficiently widely to make a radical operation worth doing. As a rule, however, if the growth has involved the vaginal walls, the case is an advanced one in the sense above defined. Again, extension to the connective tissue round the cervix, into the broad ligaments or utero-sacral ligaments, is similarly an absolute contra-indication for radical operation. This extension is recognised generally by diminished mobility of the uterus, or by its absolute fixation, according to the stage of the case. When the mobility is merely slightly impaired, the extension to one or other broad ligament is recognised by feeling a hardness, or feeling a hard band spreading out from the

uterus in the corresponding direction. When one of the utero-sacral ligaments is slightly infiltrated, similarly a hard band is felt in its direction. In the case of the broad ligaments and the utero-sacral ligaments, a slight extension of the disease into them is best recognised by trying to draw down the uterus with a volsella on the cervix while making the examination. By making an examination *per rectum* the condition of the broad ligaments and utero-sacral ligaments can be even better appreciated than by the vaginal examination alone. When the submucous connective tissue of the posterior vaginal fornix is infiltrated, the cervix seems to be, as it were, tied to something posteriorly.

Extension to the connective tissue between the supra-vaginal cervix and the bladder cannot always be recognised by physical examination. The uterus may in such cases be freely movable, and the cervix may be capable of being drawn down freely to the vulva with a volsella. The extension in the direction in question can therefore only, if limited, be recognised when the operation has been begun, and an attempt is being made to separate the bladder from the supra-vaginal cervix. If, then, there is distinct evidence that the base of the bladder is involved by the growth, the operation should be abandoned; for it is obviously useless to remove even the whole uterus if the bladder, which cannot be removed, is already infiltrated.

My own custom is to examine cases, where a doubt occurs as to whether they are "early" or "advanced" in the sense defined, under an anæsthetic before deciding.

Of course, in cases where the uterus is fixed, and it is obvious that there is extensive infiltration of the broad ligaments and utero-sacral ligaments, or extensive involvement of the vagina, no difficulty arises in at once deciding that such cases are "advanced," and unsuitable for hysterectomy.

Extension to the body of the uterus in cancer of the cervix, as a rule, only occurs at a very late stage of the disease, when the broad ligaments and the vagina are already extensively involved. In the very exceptional cases where the disease spreads early to the body

of the uterus, the vagina and connective tissue round the cervix remaining, so far as physical examination can decide, apparently free from the disease, it is not generally possible to recognise that the disease has extended into the body of the uterus till after the uterus has been removed and laid open (see Figs. 13 and 15). If before operation the body of the uterus is recognised as distinctly larger than normal, extension of the growth into the body may be suspected, particularly if the enlargement of the body is uniform. If the enlargement of the body is irregular, the probability is that fibroids are present. Fibroids of the uterus do occasionally co-exist with cancer of the cervix.

From what has been said regarding the direction in which cancer of the cervix tends to spread, it will be readily understood that a complete removal of the whole cervix at the level of the internal os, or even with a small piece of the lower part of the body of the uterus as well, will often do as much for the patient in the way of giving her as good a chance as possible of freedom from recurrence as removal of the whole uterus. For, as a rule, the width of apparently healthy tissue between the incisions made in removing the whole cervix and the edge of the growth is greatest towards the uterus —*i.e.* the upper portion of the cervix may appear perfectly healthy for perhaps half an inch, or even more downwards below the internal os, while the distance between the vaginal incisions and the edge of the growth is rarely more than half an inch, and often less. And the same holds good as to the lines of section through the connective tissue round the cervix, when the supra-vaginal cervix is being separated from it. Thus, in the earlier years of my practice, I was content with the supra-vaginal amputation of the cervix for cancer of the cervix, and restricted vaginal hysterectomy to cases of primary cancer of the body of the uterus. And some of my best cases, as regards freedom from recurrence after operation for cancer of the cervix, occur among the series of cases in which I performed the supra-vaginal amputation, as will be seen later on.

At the same time it must not be forgotten that after the supra-vaginal amputation there are often certain troublesome sequelæ. The opening into the uterus

Fig. 19.—Uterus removed by vaginal hysterectomy for cancer of the cervix. The appearance of the cervix has been shown in Figs. 5 and 6. The cancerous growth is not well seen from this aspect. The uterus has been split almost completely in two from before back. There are several fibroids in the body of the uterus: a small one at the top of the figure, to the reader's left, is a sub-peritoneal fibroid. The largest represented is interstitial, and there is also a submucous fibroid.

generally contracts so much that it is impossible to recognise it as an opening. There is only to be seen, as a rule, a little red point in the centre of a somewhat stellate cicatrix. More or less dysmenorrhœa of an obstructive

type often occurs. In some cases the dysmenorrhœa is very severe; more frequently it is not very severe. In one case I have known the opening into the uterus become actually occluded after the supra-vaginal amputation. At first there was merely narrowing of the opening, and during this time the patient had dysmenorrhœa, but menstruated regularly. Gradually the quantity lost at each period diminished, and menstruation finally stopped altogether. The patient suffered a good deal of pain after this, and finally a condition of marked hæmatometra and hæmatosalpinx was produced, the uterus being enlarged to the size it attains at the fourth month of pregnancy.

Among minor disadvantages following supra-vaginal amputation during menstrual life, in addition to the dysmenorrhœa, the time during which the menstrual discharge escapes is often much protracted. The patient may go on having a slight blood-stained, often coffee-coloured, discharge for many days more than what would be the proper duration of the period. This is evidently due to the narrowness of the opening through which the menstrual blood has to escape.

I believe, also, as a result of considerable experience of both operations, that to perform the supra-vaginal amputation in such a complete way as to give the patient the utmost possible chance of non-recurrence is really a much more difficult thing than to perform vaginal hysterectomy.

Fifteen years ago, when the relative merits of these operations were much in question, the mortality of vaginal hysterectomy was about 28 or 30 per cent., while the mortality of the supra-vaginal amputation was extremely low. I have not lost a case from the latter operation myself. Obviously at that time, if the supra-vaginal amputation were as good from the point of view of the after-history of the patient, the low mortality of the operation gave it a strong claim as against vaginal hysterectomy with its then heavy mortality. Now, however, the mortality of vaginal hysterectomy for cancer is very low, and, if the patient recovers, there are no troublesome sequelæ such as those above described. I have, therefore, practically

given up the supra-vaginal amputation, and now treat all, or almost all, cases of cancer of the cervix, which appear suitable for a radical operation, by complete removal of the uterus.

Cases that are Suitable for a Radical Operation.—The essential thing to determine, when considering whether or not a case is suitable for hysterectomy, is whether there is evidence that the malignant growth has spread beyond the anatomical limits of the uterus. The best plan is to examine doubtful cases under anæsthesia, and to examine both *per vaginam* and *per rectum*. It is also often of advantage to try to draw down the cervix with a volsella during this examination, just as would be done if vaginal hysterectomy were about to be performed. Bearing in mind the directions in which cancer of the cervix tends to spread, and the various points mentioned on pp. 51 and 52 as to the evidence of this extension, it will not generally be difficult to decide. I feel sure that when there is clear evidence that the growth has involved, say, the broad ligaments, or one utero-sacral ligament, or spread to the vagina to any marked extent, no good will result from performing vaginal hysterectomy. The uterus may be removed, but abundance of tissue infiltrated with the malignant growth will be left behind, and there will generally be scarcely even an interval of temporary benefit to set against the pain and risk of the operation. In other words, I feel sure that vaginal hysterectomy as a *palliative* treatment for cancer of the uterus is a mistake. I have invariably restricted the operation of vaginal hysterectomy to those cases in which complete removal of all the infiltrated tissue seemed at least possible; in other words, to cases in which the growth had not spread beyond the uterus itself.

On the other hand, when there is a reasonable doubt as to whether the case is too far advanced for operation or not, I think it is better to give the patient the benefit of the doubt, and perform the operation.

Selection of Operation for Cases of Cancer of the Cervix.—By the expression *radical operation* is meant an operation that will completely remove all the diseased

tissue and a good margin of apparently healthy tissue round the growth as well. Formerly—*i.e.* about 1880 to 1890—high amputation of the cervix—that is, removal of the whole cervix at the level of the internal os (the supra-vaginal amputation of the cervix)—was practised for cases of cancer of the cervix which appeared suitable for a radical operation, as well as vaginal hysterectomy. The supra-vaginal amputation of the cervix was preferred by many, including myself, for such cases. The growth does not, in the large majority of cases, tend to spread to the body of the uterus till a late stage of the disease. On the other hand, it does tend to spread early to the connective tissue round the cervix, and to the vagina. In both these directions the supra-vaginal amputation of the cervix generally does as much for the patient as complete removal of the uterus. In proof of this I may refer to my own cases of supra-vaginal amputation of the cervix for cancer. Some of the patients are still quite free from recurrence many years (in one case more than fifteen years) after the operation.

Yet I have almost abandoned the supra-vaginal amputation, in spite of the good results I have had with it, in favour of complete removal of the uterus. My reasons for doing so are chiefly these: After a supra-vaginal amputation of the cervix, especially where the cautery has been used freely, the opening by which the uterus communicates with the vagina tends to contract, and to become so narrow that, although the patient may menstruate, proving the communication to be still patent, no opening can be seen, nor can anything as large as the uterine sound be passed: sometimes the opening is too small even to admit a fine probe. Now this contraction tends to protract the menstrual period considerably. The discharge, though it escapes, does so with difficulty, and slowly. Further, quite a considerable degree of dysmenorrhœa is often experienced by these patients. In one of my cases, as already mentioned, the aperture of communication actually closed completely, and gave rise to hæmatometra, enlarging the uterus to the size it attains at the fourth month of pregnancy, and also to double

hæmatosalpinx. Lastly, although, as has been said, cancer of the cervix rarely spreads to the body of the uterus till it has already spread so extensively to the vagina and connective tissue round the cervix as to make the case unsuitable for radical operation, it does so sometimes. Then, after removing the cervix, and finding that the upper edge of the growth has not been removed, one has to proceed, somewhat less conveniently, to remove the remainder of the uterus. For all these reasons, in spite of the proved sufficiency of supra-vaginal amputation of the cervix in many cases, I regard vaginal hysterectomy as the operation of election for cases of cancer of the cervix suitable for radical treatment.

Vaginal Hysterectomy for Cancer of the Cervix.—The preparation of the patient for operation is commenced two days beforehand by giving her a good aperient, such as ʒj of liquorice powder, or grs. v.-x. of Pil. Col. et Hyoscyami. A copious enema should also be given on the morning of the operation. It is desirable to have the external genitals shaved: and vaginal douches of an efficient antiseptic, such as 1 in 2,000 perchloride of mercury lotion, should be given three times a day, taking care, of course, that all the perchloride lotion comes back.

Operation.—As regards the anæsthetic, I prefer myself to have the patient anæsthetised with the A.C.E. mixture. The patient should be warmly clothed. I generally see that she has a jacket of Gamgee tissue next the skin, and a flannel jacket over that. She should also wear warm, long stockings and flannel drawers. The patient is placed in the lithotomy position. The operator should take care that the patient is at a height that will be convenient to him in operating as he sits before her. On many tables it is desirable to place a pillow under the patient's hips, or the operator would have to bend down to an inconvenient extent, particularly when operating on the posterior vaginal fornix. A vaginal douche of 1 in 1,000 perchloride of mercury lotion is given, and the external parts are thoroughly disinfected with the same lotion by means of small swabs of Gamgee tissue. Sims's speculum and retractor are then passed, and the cervix brought into

view. It is important that the patient should be exactly straight—not tilted to one side or the other. Both the speculum and the retractor should be exactly in the middle line, behind and in front respectively. The operator then seizes preferably the anterior lip of the cervix with a volsella exactly in the middle. Another volsella may, at the same time, be put on exactly in the middle of the posterior lip of the cervix. The speculum and retractor are then removed, and the cervix is drawn down to the vulva. Strong, rigid, lateral retractors are then put in—one on each side—and held by assistants. The operator then makes an incision through the anterior vaginal wall, as far as he judges safe from the apparent limit of the growth, without running the risk of opening the bladder. After some experience, the correct position for this incision is easily known; but otherwise the operator should ascertain the exact position of the bladder in relation to the field of operation by passing a well-curved sound into it. The incision through the anterior vaginal wall, which is perhaps some two inches long, has a transverse direction from side to side, and is at first carried only through the vaginal mucous membrane.

At this stage, I believe, it is an important thing to thoroughly sear the cut edge of the vaginal wall with Paquelin's cautery, held in readiness by an assistant, which also checks the bleeding. This, however, is generally trivial; but I believe the chief value of the use of the cautery is that it leads to an extensive sloughing subsequently, and in that way removes a further ring of tissue, which may possibly be really infiltrated by malignant growth, although to the naked eye it may appear healthy. It might be thought that, consequent on the sloughing referred to, a vesico-vaginal fistula would often occur, but this has not happened in any of my cases. It will be found that, having cut through the anterior vaginal wall in the manner described, the region of comparatively loose connective tissue is opened up that lies between the bladder and the supra-vaginal cervix. The next step is to separate the bladder from the supra-vaginal cervix. This is done for the most

part by pushing with the finger. A few tougher strands of connective tissue may be divided with the scissors from time to time.

When the bladder has been separated as high as the level of the internal os uteri, the cervix is carried forward with volsellæ towards the pubes, and a transverse incision is made through the posterior vaginal wall close behind the posterior lip of the cervix. It is well to make this incision with the cautery, partly on account of the subsequent sloughing, but also to limit the bleeding, which is often comparatively free from the cut edge of the posterior vaginal wall. It will thus be seen that we have a transverse incision through the anterior fornix, a transverse incision through the posterior fornix, but the mucous membrane of the lateral fornices still remains between the adjacent outer ends of the anterior and posterior incisions.

The next thing is to connect the adjacent ends of the anterior and posterior incisions by incising the mucous membrane of the lateral fornix on each side. This is rather an important step. The incision should only be carried through the mucous membrane. I prefer myself to make this incision with the cautery.

The next step is to open Douglas's pouch. The cervix being carried well forward as before, the tissue behind the cervix is pinched up by toothed forceps, and snipped with scissors till the peritoneum is reached. It is generally possible to recognise the proximity of the peritoneum by a slight bulging at the bottom of the wound.

The next step is to pass the finger through the opening in Douglas's pouch, and to pass a stout ligature either with a Hagedorn's needle, or by means of a sharp needle in a handle, so as to tie about the central half-inch of the peritoneum to the central half-inch of the posterior vaginal wall. This checks any bleeding there may be there, and prevents an unnecessarily wide separation of the peritoneum from the vaginal wall, which would otherwise be very likely to occur. A strong pair of Wells's pressure forceps is then passed, guided by the finger, so as to secure about an inch of the cut vaginal wall outside the position of the central ligature. One blade of the

pressure forceps is on the peritoneum, and the other is on the vaginal wall near the cut edge. This pair of forceps secures several vessels that have not as yet been divided. The tissue between the cervix and the forceps is then divided as far as the point of the forceps, thus freeing the cervix on that particular side to some extent. If one has decided to rely on pressure forceps for securing the vessels throughout, the Wells's forceps would be left on, and the operation continued. If, on the other hand, as I now think is a preferable course, one decides to rely as far as possible on ligatures for securing the vessels, the next thing will be to pass a stout ligature (No. 12, braided silk) with a sharp curved needle in a handle, from below close to the point of the forceps through the vaginal wall to the peritoneal surface, then back again from the peritoneal surface to the vaginal wall near the proximal grip of the forceps. The forceps are then removed by an assistant, while the operator ties the silk ligature so passed as tightly as possible. The same manœuvre is practised on the opposite side, so that the cervix is now freed posteriorly, and to some extent laterally, but probably the uterine arteries have not as yet been secured.

At this stage I think it is well to open the vesico-uterine pouch of the peritoneum. To do this the cervix is carried well backwards, and the tissue in the neighbourhood of, or just above, the region of the upper limit of the cervix, which has been already exposed at an earlier part of the operation, is pinched up with toothed forceps, and snipped till it is evident that the peritoneum has been opened. The slightly convex surface of the body of the uterus can generally be seen before the peritoneum is opened through the thin layer of the vesico-uterine pouch covering it. When this pouch has been opened, the incision in it is enlarged by passing in a pair of straight, blunt-pointed scissors, and opening them widely. The uterus is now free in front and behind, but for the most part the lateral attachments still remain.

The next thing is to secure the lateral attachments from below upwards with Wells's forceps piecemeal,

dividing the tissue between the uterus and the forceps as each segment of it is secured, and then passing a ligature so as to secure the vessels in that particular pair of forceps. Then the pair of forceps is removed, and that ligature tied as tightly as possible. Then the process is continued at each side until the whole of the lateral attachment has been secured and divided on each side. There may be a little difficulty in reaching the upper part of the broad ligament, and bringing it low enough to secure and divide it in the manner described, particularly if the body of the uterus is at all large. One generally finds it convenient to pass the forefinger over the upper edge of the broad ligament, and so hook it down into reach, or a very blunt blunt-hook may be used cautiously for the purpose.

When all the lateral attachments have been divided and secured in the manner described, the uterus is free, and can be removed. The ligatures on the broad ligaments are left long and drawn downwards, the left set to the left side, and the right set to the right side. The whole field is carefully inspected for any bleeding points that may have hitherto escaped observation, and, if necessary, one or two further ligatures are placed and tied. When it appears that all the bleeding points have been secured, the whole field of the operation may be douched with hot, weak iodine water, about two drachms of the tincture of iodine to the pint, and, when the excess has been sponged away, a narrow strip of sterilised iodoform gauze is passed up between the two sets of ligatures, left and right, so that the gauze projects to the extent of an inch or so into the peritoneal cavity. The vagina is filled with iodoform gauze, separate from the piece that has been passed into the peritoneum. The operation is then finished, and the patient is put back to bed.

It will have been noticed in the description of the operation that there are two principal alternative methods of proceeding: either the operator determines to rely entirely upon Wells's forceps, large and small, for securing the vessels, or he may determine to rely solely on ligatures. In a few of my earliest cases of vaginal hysterectomy

for cancer I used ligatures. Then I used pressure forceps almost exclusively for several years; but latterly I have returned again to the use of ligatures entirely, or almost entirely. I think one cannot absolutely determine to use either one method or the other exclusively. When the case is a comparatively easy one in this respect—that is to say, when the operator feels satisfied that he can pass the ligatures in such a manner that the vessels will be satisfactorily secured—I think there is no doubt that the use of ligatures is to be preferred. It is very much more comfortable for the patient, and, although that is not everything, still it is a matter which certainly deserves consideration. I think, however, that in some cases, owing to various reasons—for instance, the size of the uterus, or the exceptional narrowness of the vagina, or some other cause—it is difficult and sometimes impossible to place ligatures on important vessels with absolute security. In such cases it is better, although one may have used a certain number of ligatures, to use Wells's forceps in those situations where it seems difficult or impossible to place the ligatures securely.

Difficulties or Accidents that may Occur in the Course of the Operation.—It will be seen that the description of vaginal hysterectomy already given presupposes that one is dealing with a comparatively simple case.

Narrowness of the Vagina.—Among the difficulties that are met with at an early stage of the operation may be mentioned great narrowness of the vagina, especially at its lower part. If this is so considerable as to hamper the operator's movements, the best plan is to make additional room by one or two incisions carried through the vaginal wall and subjacent tissue at its lower part—one on each side of the middle line. The incisions should not be made more deeply than is absolutely necessary to give the required space, and it is to be remembered that after making a comparatively shallow incision, the tension on the parts exercised by the retractors will of itself produce a certain amount of tearing, and so increase the space. If instead of the incisions on each side of the middle line, the operator

makes one in the middle line, he has to be exceedingly careful not to open the rectum.

Difficulty in Drawing Down the Cervix.—It often happens that owing to the friability of the malignant growth, the volsella by which the cervix was seized in the first instance will tear away. I generally find it an advantage to put on at least two volsellæ when drawing down the cervix in the first instance. The hold on the cervix is then distributed between the two, and the tearing out of the volsellæ is less likely to occur. Sometimes it is an advantage to use even more than two volsellæ. I have often used as many as four pairs, one in front, one behind, and one on each side. The lateral volsellæ are particularly useful where there is a projecting "cauliflower" mass overhanging the mucous membrane of the lateral fornices. Without the assistance of the lateral volsella it is difficult or impossible to bring the mucous membrane of the lateral fornix sufficiently into view in order to ensure that the incision through it should be made well clear of the growth.

Injury to the Bladder.—As will have appeared from the description of the operation, there is a distinct risk of wounding the bladder when the incision on the anterior vaginal wall is being made. I have never met with this accident in my practice, but I have seen the bladder opened during vaginal hysterectomy at that period of the operation when the bladder is being separated from the cervix. If, therefore, the operator is in any doubt as to the exact position of the bladder wall, he should not hesitate to feel his way carefully from time to time with a sound in the bladder. I may add that I have also seen a bad case of vesico-vaginal fistula after a vaginal hysterectomy, said to have been performed in South America. Quite recently (June, 1902) I had under my care in the London Hospital another case of vesico-vaginal fistula, which was said to have dated from a vaginal hysterectomy performed at a special hospital in London some two or three years ago. I was fortunately able to repair this successfully.

Injury to Ureters.—The only case in which a ureter

was injured among my series of operations—either vaginal hysterectomies or supra-vaginal amputations of the cervix —was Case No. 28 in my series of vaginal hysterectomies. The injury to the ureter in that case did not occur during the operation. It was a case in which secondary hæmorrhage occurred at the end of the third week. This was so severe as to require pressure forceps to be applied. These were left on for two days. Soon after they were applied the patient began to suffer from incontinence of urine. When the raw surface at the top of the vagina had healed, this incontinence still continued. I thought at first that it might be due to a vesico-vaginal fistula. When, however, the bladder was filled with milk while the vagina was fully exposed with a Sims's speculum, none of the milk came through into the vagina, but the flow of urine still continued. It was thus evident that the incontinence was due to a ureteral fistula. The patient was unwilling to have anything done at the time, and I saw nothing of her for some months. She then one day came up to tell me that she was quite dry, and had been so for some time. I examined her, and found no signs of incontinence, nor was there any sign of mischief, such as hydronephrosis, connected with either of the kidneys.

In one of my cases (No. 4 among the vaginal hysterectomies) the patient suffered from hæmaturia for some days. The urine was bloody when drawn off with a catheter. This condition gradually disappeared, and the urine became normal. The hæmaturia may possibly have been caused by reflex congestion of the kidneys due to a portion of the ureter, or of the bladder, having been nipped by the pressure forceps. She had no incontinence of urine, and remained quite well more than ten years after the operation, so that no permanent damage could have been done. Injuries to ureters have not been, so far as I have been able to ascertain, very rare in the history of vaginal hysterectomy. On account of the risk of injuring the ureters some authorities advise that the ureters should be catheterised before the operation. It will be found, however, on analysis of the

cases in which this has been practised, that many of them are what I should myself define as "advanced" cases—that is to say, cases in which on examination before the operation there is good reason to believe that the malignant infiltration has spread beyond the anatomical limits of the uterus to the connective tissue on each side of the cervix, and therefore to the immediate neighbourhood of the ureters, and perhaps so as to actually involve them.

Such a condition in my opinion completely contra-indicates any attempt at a radical operation, and an examination of many of the cases in which hysterectomy, either vaginal, or by a combined abdominal and vaginal operation, has been performed, strongly confirms this opinion. Several such cases, for instance, are recorded in Cullen's work on *Cancer of the Uterus.*

The risk of damaging the ureters in the course of the operation may be avoided by taking care not to make the lateral incisions too far away from the cervix. About half an inch from the cervix, on the vaginal mucous membrane, is a safe distance to commence the incision, and the subsequent lateral incisions are made after a good deal of the separation of the bladder from the anterior surface of the cervix has been done. As the bladder is separated from the anterior surface of the cervix, it can be retracted upwards, carrying the ureters, to a great extent, with it.

Again, in securing the lateral attachments of the cervix after the superficial incisions have been made in the lateral fornices, any risk of injuring the bladder may be avoided by keeping close to the cervix either with Wells's pressure forceps, if these are being used to secure the vessels, or in passing ligatures. If the connective tissue outside the cervix were infiltrated by a malignant growth, I can readily understand that the danger of either wounding the ureters when making the incisions, or tying them in the ligatures is very considerable; but my contention is that in such cases the operation is almost certainly useless. There is no evidence that there is any chance of completely curing such a case, nor is there any reasonable prospect of a fairly prolonged immunity from the symptoms.

Hæmorrhage during the Operation. — Hæmorrhage during the operation is fortunately not generally of a serious character, but, owing to the confined space in which the operator is working, if it should occur, it may constitute a very formidable complication. The stage of the operation in which it is likely to happen is that stage at which the bladder is being separated by the finger from the supra-vaginal cervix. The bladder is pushed up with considerable force by the finger, while the cervix is being drawn down in the opposite direction with volsellæ. If now the operator's finger goes at all too far away from the middle line, it is quite possible that the uterine veins may be torn, or possibly even the uterine artery itself. This is not likely to happen in those cases where the cervix can be readily drawn down to the outlet. It is more likely to happen where the cervix has been, to some extent, tethered to one lateral fornix by cicatricial tissue consequent on a laceration of the cervix occurring during labour. When hæmorrhage through the wounding of a large vessel happens in this way, the only thing to do is to secure the vessel as quickly as possible with Wells's forceps; but a very serious quantity of blood may be lost before this can be done. Fortunately the accident is a very rare one.

Sometimes, after the ligatures have been apparently safely tied, towards the end of the operation they may become quite loose, or even come off entirely. In such cases free hæmorrhage is sure to occur. Then, again, the treatment is to seize the bleeding vessel with Wells's forceps, and to tie it again, or to leave the forceps on. A ligature becoming slack in this way is generally due to its having been tied when the tissues were to some extent on the stretch; and it is for that reason that, in using ligatures, I prefer myself to first secure the tissues with a strong pair of Wells's forceps, then to cut between the forceps and the uterus, and then, all tension being taken off the tissues and the forceps, to pass a ligature with a needle in a handle in such a way that, when tied, it will surround the whole of the tissue in the grasp of that particular pair of forceps. The forceps, of course, is taken off as the ligature is being tied.

Difficulty arising from the Size of the Uterus: Pyometra.—As already mentioned, the body of the uterus is not usually enlarged in cancer of the cervix, a few exceptions being those cases, which are really quite rare, in which the cancer has spread up into the body of the uterus, while at the same time it has not involved either the vagina, or the connective tissue round the cervix. At times, however, the body of the uterus may be enlarged, owing either to the presence of fibroid tumours, or, in some cases (of which I have met with two good examples), from occlusion of the internal os uteri, and an accumulation of pus in the cavity above it—Pyometra (Case 23 in the series of vaginal hysterectomies).

Fibroids.—As regards the enlargement due to fibroids, if the uterus is only moderately enlarged, so as not to be larger altogether than the size of the uterus at ten or twelve weeks' pregnancy, the operation may, notwithstanding, be performed in very much the usual way.

The same kind of difficulty occurs in performing vaginal hysterectomy for cancer of the body of the uterus, and the difficulties in removing the uterus when the enlargement is only of the moderate character referred to will be dealt with when describing cancer of the body of the uterus. When, however, enlargement of the body of the uterus, due to fibroids, exists, and the uterus reaches, for instance, half-way up to the umbilicus or further, vaginal hysterectomy is not suitable for the case.

The best practice, then, in a case of cancer of the cervix with the uterus considerably enlarged by fibroids, is first to free the cervix as well as possible from below in the manner already described, and then to perform an abdominal section, and to complete the removal of the uterus from above—that is to say, to perform a combined vaginal and abdominal hysterectomy.

At the end of such an operation the ligatures on the uterine arteries may be drawn into the vagina by a pair of large Wells's forceps passed up from below, and a piece of iodoform gauze may be in the same way drawn from above downwards into the vagina, leaving about an inch

of it projecting into the peritoneal cavity. The abdominal incision is then completely closed.

Fortunately cancer of the cervix does not very often co-exist with uterine fibroids.

As regards the other enlargement of the body of the uterus, that due to pyometra, I think that probably in the course of the operation, either with the volsella, or, owing to a friability of the tissue in the neighbourhood of the internal os, by a process of tearing, an opening will have been made into the collection of fluid, and when that has been allowed to drain away, the size of the uterus will no longer be such as to create serious difficulty.

Secondary Hæmorrhage.—In only one case—that is, No. 39 among my vaginal hysterectomies—have I found bleeding occur immediately after removing the forceps. The bleeding was not much, but I thought it better to expose the upper part of the vagina with a Sims's speculum, and to secure the bleeding point with another pair of Wells's forceps, which was left on two days longer. No subsequent trouble occurred. Such bleeding is certainly an unusual accident.

Secondary hæmorrhage at a later period occurred in Case 28. This was actually at the end of the third week, and required large pressure forceps to control it.

In all cases where forceps have been used, the tissues at the upper part of the vagina, by the time the forceps are taken off, and for some two or three weeks after the operation, are in a sloughy condition. If secondary hæmorrhage should occur at any time during this period, great care is necessary, when applying forceps to stop it, to take up nothing more than is absolutely required to secure the bleeding point. The vaginal portion of the cervix, the usual familiar landmark, is of course absent, and a portion of the bladder, or one of the ureters, may be easily picked up. Fortunately secondary hæmorrhage, either when the forceps are taken off, or subsequently, is very uncommon. I have only met with it in the two instances mentioned in my first forty vaginal hysterectomies for cancer.

After-Treatment.—As regards the general management of cases after vaginal hysterectomy, it should be very similar to that usually adopted after abdominal section; that is to say, for the first twenty-four or thirty-six hours the patient should have nothing by the mouth except small quantities of very hot water—for instance, a teaspoonful every half-hour. At the end of that time, if the patient is not vomiting, feeding by the mouth may be commenced. I generally give a teaspoonful of a mixture of equal parts of peptonised milk and barley water every half-hour, gradually increasing the quantity every few hours, unless vomiting should occur. By the third day the patient is taking an ounce to an ounce and a half of the milk mixture at a time. During the time that she is taking nothing but hot water by the mouth, I think it is good practice to support her strength by nutrient enemata, or nutrient enules. A suitable formula for the nutrient enema is ℥ss. of brandy, ℥j. of black coffee, and ℥iiss. of peptonised beef-tea. One of these may be given every eight hours. A soft rectal tube should be used at convenient intervals to facilitate the passage of flatus.

The catheter should be passed about three times in the twenty-four hours for the first few days. If the patient is troubled with any distension of the abdomen, which is not rapidly removed by the use of the rectal tube, hypodermic injections of strychnine (gr. $\frac{1}{60}$) every six or eight hours are often useful in promoting the expulsion of flatus. In such cases, too, great relief is generally afforded by giving the patient a turpentine enema made of thin gruel with ℥ss. of turpentine to each pint. This usually brings away considerable quantities of flatus, and so reduces the distension.

It is extremely desirable, as in the case of abdominal operations, to avoid as far as possible the use of morphine, which tends to cause distension of the abdomen, and to prolong the period during which the patient is likely to vomit.

So far, what has been said is exactly the course of treatment that I adopt after ordinary cases of abdominal

section, such as ovariotomy, and I have found it equally suitable in cases of vaginal hysterectomy.

It is extremely important to keep the patient absolutely at rest, and care should be taken to see that, when it is necessary to lift her, two nurses are always available.

When Wells's forceps have been used to secure the vessels, the management of the case during the period for which the forceps remain on is decidedly more difficult than when ligatures alone have been used. When forceps have been left on, they project from the vulva, and cause much discomfort, not infrequently considerable pain. The position of the patient in such cases has to be very carefully attended to. She should be lying on her back with her hips raised somewhat by a pillow, so that the forceps are able to hang freely without any risk of touching the bed. At the same time her knees and thighs must be flexed, and the knees kept apart; otherwise the inside of the thigh will touch the projecting forceps. In the case of very nervous or sensitive patients it is sometimes necessary to maintain the position of the knees by means of Clover's crutch during the whole of the time that the forceps remain attached. The feet are kept from slipping down by suitably arranged pillows supported by a sandbag. It is generally convenient to have a small pillow under each knee.

The passage of the catheter is decidedly more difficult in cases where Wells's forceps have been used, and unless a nurse of special experience is in attendance, the operator will probably have to pass the catheter himself so long as the forceps remain in position.

Again, the use of the rectal tube is apt to be less effectual in these cases, and it may be difficult for the patient to retain the nutrient enemata recommended above. The nutrient enule is more suitable for cases of this kind.

As regards the time for which it is necessary to leave the forceps in position, practice varies considerably. Some operators take off the forceps in forty-eight hours, some leave them for three days, and some for four days. The two principal points requiring consideration

in this respect are, first, security from hæmorrhage, and, second, the risk of disturbing the protective adhesions that are set up round the extremities of the forceps and the portion of gauze that was left projecting into the peritoneal cavity.

As regards hæmorrhage, it is practically quite safe to take off the forceps at the end of forty-eight hours; but as regards the adhesions, which are comparatively delicate at that period, it must be very easy in taking off the forceps and pulling out the gauze to separate the adhesions, and so put the upper part of the vagina in communication with the general peritoneal cavity. Should this happen, infection, leading to septic peritonitis, is extremely likely to occur.

I have used the forceps in a considerable number of my cases, and for some time removed them at the end of forty-eight hours. In one case (No. 18 in the series of vaginal hysterectomies) the patient was doing perfectly well until the forceps were taken off. While this was being done, she suddenly complained of sharp pain in the abdomen, and began to do badly. Symptoms of peritonitis appeared, and she died on the seventh day. I believe the cause of the peritonitis was that the adhesions shutting off the general peritoneum were broken down in taking off the forceps, and the region of the wound, which is always in a foul and sloughy condition at this stage of the case when pressure forceps have been used, was thus put into communication with the peritoneum.

Since this case, when I have used forceps, I have generally left them on for either three or four complete days, in order to allow time for the protecting adhesions to become firm. Even after this interval—that is, even after four days—the general peritoneal cavity may be broken into when the forceps and gauze are being removed, although the greatest care is being taken to avoid this accident.

In one of my cases, since the complete series of forty recorded in the Table, I removed the forceps and gauze at the end of four days. As I removed the gauze, a loop of small intestine came down into the vagina, and as far as

the outlet of the vulva. The peritoneal coat of the bowel was perfectly healthy, and free from lymph. I pushed back the coil of bowel with a small sponge on a sponge-holder, and inserted a plug of iodoform gauze, part of which was well in the cavity of the peritoneum. I was a good deal surprised to find that no bad symptoms followed this serious accident. When the gauze was taken out, the bowel did not come down again, and the patient's recovery was uneventful. In looking up the reports of cases in which this accident has happened—that is, prolapse of the bowel when the forceps are taken off, the recorded cases of which are very few in number—I find that the result has been almost invariably fatal.

Another point to be borne in mind, as regards the cases in which forceps are used, is that where many pairs of large forceps have been used the weight of the forceps is very considerable, and that, consequently, when these are taken off, the stumps of the broad ligaments on which the forceps have been hanging must retract to some extent, and this retraction may at times contribute to a re-opening of the general cavity.

Two other occasional disadvantages may be met with when forceps have been used. One is that the weight of the forceps, in conjunction with the presence of the plug of iodoform gauze, may mechanically so obstruct the rectum as to give rise to a condition almost identical with intestinal obstruction. I can call to mind a case in which forceps had been used where, at the end of twelve hours after the operation, the patient was seized with the most obstinate and persistent vomiting. There was a rising pulse, and a good deal of abdominal distension. Such symptoms naturally excited a good deal of anxiety as to whether peritonitis might not be impending. In this case I took the forceps off at the end of three days, owing to the symptoms above mentioned, and after the removal of the forceps and gauze, flatus passed easily, and the patient was never sick again.

Another point is that the weight and dragging of the forceps may produce a partial or complete obstruction of

the ureters. I do not refer to cases where a ureter has been actually included in the grasp of the forceps, but I have seen one case where for the first forty-eight hours there was no water in the bladder at all. The forceps were then taken off, and within twelve hours a natural quantity of urine was withdrawn each time with the catheter. It is possible, of course, that a ureter might have been nipped by the forceps, but I think, as the urine subsequently passed was perfectly normal, the probability is that the obstruction was of a mechanical nature, from the tension or twisting, or from both causes, produced by the weight of the forceps.

It will be seen, therefore, that the first four or five days after the operation, when forceps have been used to secure the vessels, is a period of considerable discomfort, and not infrequently of actual pain to the patient, and is also a period by no means free from anxiety for the operator; so that, other things being equal, there can be little or no doubt that ligatures should be generally preferred.

In cases where ligatures have been used to secure the vessels, the plug of gauze in the vagina may be removed at the end of the fourth day, care being taken not to get it entangled with the ligatures; but the plug of gauze in the peritoneal cavity may be left for a day or two longer. Should the discharge become very offensive, or the temperature rise, the peritoneal plug of gauze should be removed any time after the fourth day. In doing this it is well to have the patient on her left side, in a good light, and to use a short-bladed Simon's speculum, passed along the posterior vaginal wall, great care being taken not to have any ligatures under it. A retractor may be held similarly against the anterior vaginal wall by an assistant. In this way the margins of the opening through which the gauze is to be removed are supported to some extent, and there is less likelihood of reopening the general cavity, and of prolapse of ovaries, omentum, or intestine.

Vaginal douches should not be used till a full week after the operation. There is generally by that time a certain amount of a somewhat offensive discharge, and it

is well to use an antiseptic douche once or twice a day, such as weak iodine water (℥ii. Tr. Iodi to the pint) or Sanitas ℥ss. to the pint. Great care should be taken not to pass the tube in too far—in fact, to keep it well away from the wound at the top of the vagina, and also to see that the fluid used returns easily, so as not to distend the upper part of the vagina.

Should the bowels not have acted, it is well to secure an action not later than a week after the operation, either by a simple enema, or by a dose of liquorice powder, followed by an enema. If, however, the patient has had a good deal of abdominal discomfort, towards the end of the week—about the fourth day, for instance—it is better to give a simple enema, or a saline aperient followed by an enema, at that time.

After the first week the patient, who has hitherto been taking nothing but peptonised milk, Benger's Food, chicken broth, and the like, may commence to take solid food, beginning with a little boiled sole, and then a day or two later a little chicken, and so on. An action of the bowels should be secured about every other day.

The patient is kept absolutely at rest in bed for three full weeks after the operation. At the end of that time some of the ligatures on the broad ligaments may be loose, but very probably several of them will not be loose, and will not come away for perhaps three or four weeks longer. I do not, however, consider that of any importance. My practice is to let the patient get up at the end of the third week, and go home about the end of the fourth week. Before she goes home I examine her with the speculum, and remove such ligatures as are lying loose. Others, which are not loose, I cut comparatively short, so that there will be no chance of the ends projecting from the vagina, and leave them to come away of themselves.

The Supra-Vaginal Amputation of the Cervix.—This operation was for some time an alternative to vaginal hysterectomy as a radical treatment for cancer of the cervix. For my own part, I adopted it almost exclusively for many years in cases of this kind. There

can be no doubt—in fact, my own cases prove it conclusively—that from the point of view of giving the patient as good a chance as possible that the disease may not recur, the supra-vaginal amputation of the cervix is, in the great majority of cases, quite as good an operation as vaginal hysterectomy.

As has been already mentioned, cancer of the cervix tends to spread to the vagina, and to the connective tissue round the cervix in most cases, rather than upwards into the body of the uterus. As a rule—to which, however, there are several exceptions—by the time the disease has spread to the body of the uterus, it has already spread so extensively to the tissue round the cervix—that is to say, into the broad ligaments, or into the utero-sacral ligaments, or to the base of the bladder, or to the vagina—that the case has already become unfit for either supra-vaginal amputation, or vaginal hysterectomy. Nevertheless, at the present time I have almost entirely abandoned the supra-vaginal amputation in favour of vaginal hysterectomy.

The supra-vaginal amputation is, if anything, the more difficult of the two; at all events, it is more difficult to perform the supra-vaginal amputation in such a manner as to give the patient the best possible chance of non-recurrence than it is to do vaginal hysterectomy. The risk of vaginal hysterectomy is now only slightly greater than that of the supra-vaginal amputation of the cervix. The equality of the operations, however, in this respect has only obtained in recent years.

The minor disadvantages in the after-results, in cases where the supra-vaginal amputation has been performed, also deserve consideration—namely, the contraction of the aperture of communication with the uterus, which not infrequently causes a considerable degree of dysmenorrhœa from mechanical obstruction. The aperture, in rare cases, may even become completely closed, giving rise to hæmatometra.

Description of the Supra-Vaginal Amputation.—Very little need be said about this operation, because, for all practical purposes, the steps of the operation are identical

with the earlier steps of vaginal hysterectomy. The preparation of the patient, and the position of the patient at the operation are the same. The cervix is exposed, and drawn down exactly in the same way as when performing vaginal hysterectomy. The separation of the bladder from the front of the cervix, as high as the level of the internal os, is the same in both operations. Similarly, the incision into the posterior vaginal fornix is made in the same manner. In the supra-vaginal amputation, however, it is not always necessary to open Douglas's pouch, though in many cases, in which I performed the operation, this was done. At times the peritoneum can be dissected off the posterior aspect of the cervix to the level of the internal os, without opening Douglas's pouch. The incisions in the mucous membrane of the lateral fornices are made in the same way as in vaginal hysterectomy. The lateral attachments of the cervix, up to the level of the internal os, have to be secured either by Wells's forceps, or by ligatures. When these have been divided, it only remains to cut off the cervix from the rest of the uterus. My custom has been to do this with Paquelin's cautery. This has the advantage of checking the oozing from the uterine stump, and also of causing considerable sloughing, which, of course, involves removal of a further layer of tissue in that direction, which would not have been obtained by the separation of the cervix from the body of the uterus by the knife, or scissors.

In performing the supra-vaginal amputation, it has always been my custom to thoroughly cauterise the cut edges of the vaginal walls, and the bed of connective tissue from which the cervix has been dissected. The vagina is then plugged with iodoform gauze, and the patient put back to bed.

After the supra-vaginal amputation there is always a possibility, as in vaginal hysterectomy, of secondary hæmorrhage. This, at least twice in my experience, has been of rather a troublesome nature. It was not, however, so severe as to require the application of pressure forceps to stop it, but in both cases was sufficiently

controlled by hot vaginal douches, followed by firm plugging of the vagina with gauze. In the two cases referred to, the hæmorrhage was sufficient to cause the patient to be distinctly anæmic.

The only cases in which I have adopted this operation during recent years have been cases in which the malignant growth was in an exceedingly early stage. If, for instance, there be only a small superficial patch the size of a sixpence on the vaginal portion of the cervix, it does seem perhaps unnecessary to do so extensive an operation as the removal of the whole uterus.

Again, in a very fat patient, I believe it is sometimes impossible to do hysterectomy entirely by the vaginal route. The last case in which I performed the supra-vaginal amputation was a case of this nature. The patient weighed nearly sixteen stone, and, owing to the enormous quantity of fat in the subcutaneous tissue in the neighbourhood of the vulva, the vagina being also somewhat narrow, it was with the greatest difficulty that I was enabled to perform the supra-vaginal amputation, owing to the difficulty of getting access to the field of operation. In that case I must admit I rather intended, when I began the operation, to do a vaginal hysterectomy; but when the whole cervix had been freed, it became clear that to proceed to secure the broad ligaments on each side, in order to remove the rest of the uterus, would be a matter of extreme difficulty, and would therefore have involved an increased risk to the patient. In fact, had there been real necessity for removing the body of the uterus, I think the safer plan, when the cervix had been freed as described, would have been to finish the operation by abdominal section. As, however, the malignant growth was on the vaginal portion, of very limited extent, and appeared to be quite superficial, I decided to be content with the supra-vaginal amputation of the cervix at the level of the internal os uteri.

The supra-vaginal amputation must be carefully distinguished from amputation of the vaginal portion only. Formerly—that is, up to twenty or twenty-five years ago—amputation of the cervix, either with the scissors,

or with the *écraseur*, meant amputation of the vaginal portion only—that is, amputation of only about one-third of the whole cervix. When it is remembered how rare it is to meet with cases of cancer of the cervix in an early stage, it will be evident that amputation of the vaginal portion only would hardly ever remove the whole of the infiltrated cervical tissue, still less remove a layer of apparently healthy tissue beyond the limits of the growth. Supra-vaginal amputation was a very considerable step in advance, because it removes the whole cervix at the level of the internal os; and not infrequently a small portion of the lower part of the body of the uterus is removed as well.

Causes of Death after Vaginal Hysterectomy.—The chief causes of death after vaginal hysterectomy are hæmorrhage (either primary or secondary), and septic peritonitis. The possibility of the occurrence of pulmonary embolism is also not to be forgotten. Little more need be said about these causes.

In cases of septic peritonitis there is no evidence that treatment is of any avail.

As regards primary hæmorrhage, the important thing is to take every possible care that the vessels are properly secured. Every portion of the field of operation should be carefully inspected before the insertion of the gauze, to make sure that no bleeding points have been overlooked.

As regards secondary hæmorrhage, though it rarely happens, it must always remain a possibility. The necessity of absolute rest in bed for three full weeks after the operation must be obvious, from the fact that in one case I have known secondary hæmorrhage occur after vaginal hysterectomy as late as the end of the third week. Absolute rest is also the best safeguard against the occurrence of pulmonary embolism.

Treatment in Advanced Cases.—I have already said that in my opinion a radical operation—that is to say, an operation undertaken with the hope of giving the patient either permanent immunity from the disease, or at all events a prolonged interval of freedom from

symptoms—should be restricted to cases in which, so far as physical examination can ascertain, the malignant growth has not spread beyond the anatomical limits of the uterus. Many operators, however, both in America and on the Continent, have sought to extend the scope of a radical operation to cases where a physical examination has shown the broad ligaments, or the vagina, or both, to be more or less involved. I have analysed many of these cases in order to endeavour to arrive at a conclusion as to how far these more extensive operations have been justified by their results. The more extensive operations referred to are cases where the operator deliberately starts, knowing that the disease has spread into the broad ligaments or to the vagina, and endeavours to remove the infiltrated pelvic connective tissue, and infiltrated vagina, in addition to the uterus itself.

The following cases, collected from Cullen's work on *Cancer of the Uterus*, seem to me to show very fairly how useless it is to endeavour to extend the operation in the manner just described.

I.—Squamous-celled carcinoma of the cervix; nodule in the left broad ligament dissected out at a vaginal hysterectomy; death from asthenia in eight months. Report on the specimen shows that the growth was not completely removed.*

II.—Cauliflower growth of the cervix; laterally the broad ligaments described as involved as far out as the ureters. Abdominal hysterectomy; patient lost sight of.†

III.—Squamous-celled carcinoma of the cervix, with cauliflower outgrowths; involvement of vaginal vault. Abscess between the uterus and rectum; combined abdominal and vaginal hysterectomy. Death, which took place two months after the patient left the hospital, was due to exhaustion.‡ No note as to removal of lymphatic glands.

IV.—Squamous-celled carcinoma of the cervix: cauliflower the size of orange had involved the vaginal vault.

* Cullen: *Cancer of the Uterus*, p. 64.
† *Ibid.*, p. 67.
‡ *Ibid.*, p. 69.

(The broad ligaments are mentioned as not being involved.) Abdominal hysterectomy; recurrence ten months after the operation. No note as to lymphatic glands.*

V.—Squamous-celled carcinoma of the cervix; cauliflower; slight vaginal involvement; abdominal hysterectomy; rapid local return; death seven months after operation; none of the lymphatic glands could be felt at the operation. Examination of the specimen showed that the infiltrated vaginal tissue had not been completely removed.†

VI.—Squamous-celled carcinoma of the cervix; extension to the vagina on the left side; vaginal hysterectomy; rapid local recurrence; death eight months after the operation.‡

VII.—Squamous carcinoma of the cervix; cauliflower; extension to the vagina; vaginal hysterectomy, with partial removal of the growth; subsequent attempt to remove remaining nodules in the vaginal vault, followed by small vesico-vaginal fistula; growth not entirely removed.§

VIII.—Squamous carcinoma of the cervix, with extension to the vaginal vault; abdominal hysterectomy, followed by slight incontinence of urine; patient lost sight of. No note as to lymphatic glands.‖

IX.—Squamous carcinoma of the cervix; under anæsthesia several large circumscribed masses can be felt in the broad ligaments; operation attempted; combined vaginal and abdominal hysterectomy. The masses in the broad ligaments were densely adherent to the pelvic walls, and appeared to be metastases; operation abandoned.¶

X.—Scirrhous squamous-celled carcinoma of the cervix; complete destruction of the posterior lip. The anterior lip is a mere shell. Apparently slight involvement

* Cullen: *Cancer of the Uterus*, p. 72.
† *Ibid.*, p. 73.
‡ *Ibid.*, p. 76.
§ *Ibid.*, p. 82.
‖ *Ibid.*, p. 85.
¶ *Ibid.*, pp. 99-100.

of the broad ligaments; attempted vaginal hysterectomy; profuse hæmorrhage from the uterine arteries; eighteen centimetres of the bougie in the left ureter broken off, and not removed on account of patient's weakness. Death on the sixth day.*

XI.—Squamous-celled carcinoma of the cervix, with extension to the posterior vaginal vault; group of carcinomatous cells in a lymph channel; vaginal hysterectomy; severe hæmorrhage from the right uterine artery, only controlled by leaving on the artery forceps; recovery; patient well six years after operation. In this case it is stated, as regards the physical examination, no thickening can be detected in the broad ligaments.†

XII.—Squamous-celled carcinoma, the cervix being a mere shell; involvement of the left broad ligament; commencing pyometra; vaginal and abdominal hysterectomy incomplete, due to tearing off of the cervix; passive involvement of the uterine glands by the squamous-celled growth; giant cells. The growth reappeared two months after the patient's discharge; death occurred one month later.‡

XIII.—Squamous-celled carcinoma of the cervix, with extension to the vagina; combined vaginal and abdominal hysterectomy, with removal of a portion of the vagina; removal of recurrent nodules in the vaginal vault several months later. Death from pneumonia a few weeks after the second operation.§

XIV.—Squamous-celled carcinoma of the cervix; extension to the vagina; secondary invasion of the left Fallopian tube; pelvic peritonitis; hysterectomy. Recovery. Patient lost sight of: probably dead. A note on the histological examination of the parts removed says: Portions of the growth have without a doubt been left behind.‖

* Cullen: *Cancer of the Uterus*, p. 108.
† *Ibid.*, p. 111.
‡ *Ibid.*, p. 117.
§ *Ibid.*, p. 125.
‖ *Ibid.*, pp. 155-156.

XV.—Squamous-celled carcinoma of the cervix; extension to the pelvic lymph glands; hysterectomy; death.*

A note on the physical examination in this case says: "The cervix is converted into a mere shell, with jagged ulcerated margins. The uterus is freely movable; the broad ligaments are *apparently* not implicated, but considerable pain in the left ovarian region follows examination." A note on the examination of the parts removed states: "The broad ligament does not appear to be involved except on the right side near the pelvic wall, where there were several minute nodules, the largest of which measures 5 mm. in diameter. . . . On histological examination . . . the largest of the nodules found near the pelvic wall in the right side is a small lymph gland, which is occupied by several nests of epithelial cells."

A consideration of the foregoing cases is sufficient to show that, at all events, when the broad ligaments are involved it is useless to operate with any expectation that the patient will obtain either permanent benefit, or even prolonged immunity from the disease. The same may be said when the vagina is at all extensively involved. It is true that in one of the fifteen cases just referred to there is a note that the patient was well six years after the operation, but in that case there was no evidence of any thickening in the broad ligaments; so that, although it is not distinctly stated, it is probable that the vaginal vault was only involved to a very slight extent.

Another prominent feature in the description of the cases just referred to is that in the majority of them the operation was of an exceedingly severe character, and that the patient ran an immediate risk very much greater than that incurred in a vaginal hysterectomy when the disease is limited to the uterus.

While I have said that in my opinion radical operation should be restricted to cases where the disease is strictly limited to the uterus, I would make an exception as regards cases where there is a *very slight* extension to the vaginal wall—an extension, for instance, in the case of a

* Cullen: *Cancer of the Uterus*, pp. 160-161.

superficial growth affecting perhaps an eighth of an inch beyond the boundary of the cervix. When the vagina is involved to that extent it is sometimes possible, particularly when the extension is to the posterior vaginal wall, or to the mucous membrane of the lateral fornices, to make the necessary incisions sufficiently far away from the margin of the growth. When the extension is to the anterior fornix, the probability of being able to make the incision sufficiently wide of the disease is very slight, for in such cases the sub-mucous connective tissue of the vaginal wall, which is in close relation with the base of the bladder, is almost certain to be infiltrated.

Other considerations can be brought forward in support of the opinion that a more radical or more extensive operation than a vaginal hysterectomy, or than a combined abdominal and vaginal hysterectomy, while it involves a much greater risk to the patient than either of these operations, is practically useless as regards offering her any hope of non-recurrence of the disease. Thus Mackenrodt has devised an ingenious and very extensive operation. His method is as follows:

"A vertical incision is made on each side along the lower part of the outer border of the rectus muscle. The lower ends of these incisions are joined by a transverse cut just above the pubes. The attachments of the recti to the pubes are divided. The peritoneum is pushed off unopened from the large abdominal flap, and is cut across above the bladder. The uterus is then drawn up through the opening, and its peritoneal attachment divided all round. The peritoneum, separated from the anterior abdominal wall, is next sutured to the peritoneum on the posterior pelvic wall from one side to the other. The peritoneal cavity is thus shut off above; while below, the pelvis with its contents lies widely open. The peritoneum is now pushed off the lateral pelvic wall, and the glands are removed retro-peritoneally as high as the bifurcation of the aorta. Finally, the uterus, and as much of the vagina as seems desirable, are removed. If the ureters are implicated in the growth, it is claimed that portions of

them can be easily removed, and the ends implanted in the bladder.

As regards the treatment of the wound left after removal of the uterus, in the first five patients operated upon in this way the whole enormous cavity was stuffed with iodoform gauze, and the parietal wound closed by sutures. Four out of the five cases died from septic infection that undoubtedly arose from the vagina and the injured rectum.

In several further cases the wound was divided into four, the bladder being first sutured to the stump of the sacro-uterine ligaments, and the lower compartment of the wound thus formed being drained into the vagina. The upper compartment was then divided into three by suturing a fold of peritoneum to each lateral border of the abdominal flap, and these three cavities were separately drained through the abdominal incision by tubes with gauze. After this method of treatment of the wound, healing proceeded smoothly in six cases. One avoidable death took place, being caused by hæmorrhage from a cut epigastric artery." *

Fifteen cases of abdominal hysterectomy for cancer are related by H. W. Freund.†

In three of the cases the disease was limited to the uterus. The longest period of freedom from recurrence in any of the three was one year and five months. "In twelve other patients laparotomy was carried out in cases where the carcinoma had already spread beyond the uterus; in two of these the bladder, and in three, one or both ureters, were injured. Two of the twelve died as the result of the operation. One patient was well a year and a quarter, and another nine months after operation; while a fifth was still living four months afterwards, having in the meantime had one kidney removed for a ureteral fistula; in a sixth case the operation was incomplete. The remaining six cases out of the twelve recovered from the operation, but all of them died within a year."

* *Journal of Obstetrics & Gynæcology of the British Empire*, Vol. I., pp. 221-222.

† *Ibid.*, Vol. I., pp. 222-223.

Freund concludes that the abdominal operation should be limited to cases where the disease is still confined to the uterus, or its immediate neighbourhood, and finally emphasises the fundamental importance of early diagnosis.*

The severity of these more extensive radical operations is obvious from the description given above, as well as from the gravity of the immediate results; while there is in my opinion nothing in the after-results to offer anyone the least encouragement in the future to perform similar operations. All the evidence goes to prove that, once the disease has spread beyond the uterus, no operation, however extensive, will give the patient the slightest chance of cure, or even any considerable period of freedom from the symptoms; so that our hope of improvement in the future lies exclusively in the direction of getting a larger proportion of cases to come under observation at a relatively early stage of the disease.

Werder's Operation.—Werder's operation belongs to the class of operations to which reference has just been made—operations designed to remove all the infiltrated tissue in cases where the disease is known to have spread beyond the limits of the uterus into the connective tissue of the broad ligaments, and to the vagina. Cullen is evidently favourably impressed with it. The following account is based on his description of it. In Werder's operation the cancerous tissue is first curetted away as completely as possible; the surface that has been curetted is then seared with the cautery. The ureters are then catheterised. The patient is then put in the Trendelenburg position, and the abdomen opened: the upper part of the broad ligament, with the ovarian vessels, is then tied, and divided on each side, and the round ligaments also. The peritoneum is incised anteriorly, as in an ordinary abdominal hysterectomy, and the bladder separated from the cervix, and from the broad ligaments on each side. The uterine arteries are tied near their points of origin. The ureters

* *Journal of Obstetrics & Gynæcology of the British Empire*, Vol. I., pp. 222-223.

have to be recognised and dissected, so that they can be kept out of the way. An assistant passes two fingers into the vagina to aid the operator in dissecting the bladder from the vagina. This dissection is carried as low down as is thought desirable. The utero-sacral ligaments are divided, and the rectum separated from Douglas's pouch. The vagina is separated from the rectum as low as may be wished. Similarly the sides of the vagina are separated from their lateral attachments, so that at this stage the vagina has not been opened. The uterus is then pushed as low as possible in the pelvis. The cut edge of the anterior flap of peritoneum, which was made in proceeding to free the bladder, is then stitched to the cut edge of the peritoneum, where it was incised posteriorly, so as to shut off all the raw surfaces made from the rest of the peritoneal cavity. The abdomen is then closed. The patient is again put in the lithotomy position, and the cervix is pulled right out of the vulva, carrying with it, of course, the inverted vagina. The last step is to cut through the inverted vagina with the cautery as far from the cervix as seems desirable. The uterus, with its appendages, and with a considerable piece of the vaginal tube, is then taken away. The cavity left is lightly packed with gauze. The duration of this operation is given as two hours.

I think every one who is accustomed to abdominal and vaginal hysterectomy will admire the ingenuity of Werder's operation. At the same time the after-results as regards recurrence constitute the criterion by which it must stand, or fall. *A priori*, I cannot myself see how it will avail to dissect the ureters out of connective tissue infiltrated by cancerous elements, since, though this may be done, the walls of the ureters themselves are sure to be invaded. It is true that this may be met by cutting off pieces of the ureters, and implanting the cut ends of the ureters into the bladder. Granting, for the sake of argument, that this may be successfully done as a matter of routine, we are still left with the connective tissue at the base of the bladder, between the bladder and cervix. In a large number—probably in the large majority—of these "advanced" cases, with which alone we are at present

concerned, the base of the bladder is involved, and unless a large segment of it were to be also removed, the operation must fail in the essential requirement of a radical operation—namely, to remove *all* the tissue infiltrated by the disease. Similarly, in dissecting the vagina from the bladder and rectum, if the vaginal wall is involved in the cancerous growth, the sub-mucous connective tissue is sure to be involved also. Thus, in that direction also, though the vaginal wall be removed as low as to within an inch of the vulva, some of the diseased sub-mucous connective tissue is certain to be left. If the vaginal wall is not involved, the tedious dissection by which the upper part of the vagina is to be removed becomes unnecessary. The severity of the operation is obvious; but, in the case of a disease necessarily fatal, this need not, of course, constitute a bar to performing it, if only it promised to effect complete removal of all the diseased tissue.

Palliative Treatment.—A few words may be said about palliative methods of treatment, which will in certain cases produce a temporary alleviation of the symptoms. The methods referred to are curetting, the application of the actual cautery, and the application of powerful caustics.

It must be clearly understood that it is only in cases where the radical operation is out of the question that the use of any of these methods of treatment should be entertained. It is not altogether unnecessary to mention this, for I have known a case of cancer of the cervix treated by scraping and cauterising first. Then, when the symptoms recurred, the patient was told there was nothing left except vaginal hysterectomy, and she was sent to me from South Africa for the purpose of having this operation performed. It is scarcely necessary to say that, when I saw the case, the disease was in much too advanced a stage for any radical operation. It therefore follows that it is only in cases where examination has shown that the disease has spread beyond the limits of the uterus that we should think of employing treatment of this kind. Again, it is not by any means every case of advanced malignant disease of the cervix that is

suitable for the treatment in question. In cases, for instance, where the cervix is hollowed out by the breaking down of the malignant growth—in cases, that is, more especially of the crater-like or conical ulcer of the cervix—no benefit can be expected from curetting, cauterising, or the use of caustics. In such cases the malignant growth has disintegrated almost as fast as it has been formed. The walls of the cavity forming the conical ulcer are in close relation with the peritoneum, or the bladder, or rectum, and the amount of tissue separating the malignant ulcer from the bladder, rectum, or peritoneum is very small. Consequently, were any attempt made to curette the walls of this ulcer, or to burn it extensively with Paquelin's cautery, or to treat it with powerful caustics, the use of which is followed by the separation of a thick slough, there would be a considerable probability of perforation taking place in one of the directions mentioned.

The kind of case where most benefit is to be expected from palliative treatment is one where there is a large projecting soft growth—a large "cauliflower" mass, for instance, perhaps the size of the fist—projecting from the cervix, and occupying the upper part of the vagina. The patient is probably suffering from more or less constant hæmorrhage, and has probably occasional losses of a more severe character, amounting to flooding; she is also probably suffering from a horribly fetid discharge. If now, under anæsthesia, as much as possible of the growth be scraped away with a sharp curette, the symptoms referred to—that is, the bleeding and the offensive discharge—will probably be relieved for some time. The result may be improved by freely cauterising the cavity, from which the soft growth has been scraped away, with Paquelin's cautery. And again, the result may be somewhat further improved after the use of the cautery by packing the cavity with tampons of cotton wool, each with a string attached, the tampons soaked in chloride of zinc, three hundred grains to the ounce, and squeezed rather dry before being packed in. This solution is a very powerful caustic, and it is necessary

to protect the vagina from the action of any excess that may drain away from the plugs by placing other protective tampons of cotton wool soaked in a solution of carbonate of soda in the upper part of the vagina. In the course of ten days or a fortnight the use of chloride of zinc in this manner causes the separation of a slough, which may be a quarter of an inch thick, forming an exact cast of the cavity from which the soft growth has been scraped away; and in favourable cases a period of comparative freedom from hæmorrhage and offensive discharge will be the result. The patient unfortunately generally feels a good deal of pain when chloride of zinc is used in the manner described, and it will be necessary to keep her under the influence of morphine while the chloride of zinc plugs are in position. The plugs are all removed in twenty-four hours by means of the strings. When the slough separates there may at times be rather sharp hæmorrhage. This may be even so severe as to require tight plugging of the cavity with gauze through a speculum.

It has been claimed that, after the curetting, the application of tincture of iodine or carbolic acid to the cavity has as good an effect as the use of the chloride of zinc. The use of the two former is, at all events, free from the unpleasant effects met with after the use of chloride of zinc.

CHAPTER III.

THE AFTER-RESULTS OF RADICAL OPERATIONS FOR CANCER OF THE CERVIX.

Up to the year 1893 I had for the most part treated cases of cancer of the cervix that appeared suitable for operation by the supra-vaginal amputation of the cervix, and reserved total extirpation of the uterus for cases of primary cancer of the body of the uterus. Since that time, however, I have been more and more convinced that to perform the supra-vaginal amputation of the cervix in such a way as to give the patient the utmost chance that the disease will not recur is, in the majority of cases, a more difficult matter than to perform a vaginal hysterectomy; and for this reason, among others, I have for some time past only performed supra-vaginal amputation of the cervix in exceptional cases—in cases, for instance, where there is a very limited and superficial growth on the vaginal portion, particularly when associated with some condition, such as excessive stoutness of the patient, which would have rendered removal of the uterus by the vaginal route either exceedingly difficult, or actually impossible.

Up to April, 1899, I had had thirty-three cases of the supra-vaginal amputation of the cervix for cancer, and up to the same date (April, 1899) I had had forty cases of vaginal hysterectomy for cancer of the uterus. It was in April, 1899, that I completed my fortieth case of the latter operation. Several of the vaginal hysterectomies were, however, for malignant disease of the body of the uterus.

In this chapter I will only speak of the after-results

of radical operation for cancer of the cervix, and will, therefore, only refer to those vaginal hysterectomies in which the operation was performed for cancer of the cervix.

In any inquiry into the after-results of operations for cancer of the uterus it is essential first of all to prove that, in those cases in which the disease has not recurred, the growth was really malignant. In order to satisfy this condition I have in each case had an independent report on the growth from the Clinical Research Association, and the report will be found verbatim in the account of each of the cases. The necessity of a careful microscopical examination of the growth in each case is obvious, and when the microscopical examination confirms the opinion based on the clinical features and physical examination, there can, I think, be no hesitation in accepting the result as fully proved. Further, my specimens and sections of them have been exhibited before some scientific Society. In each case it will be mentioned before which Society the specimen was shown.

I return to the question of the after-history of the patients operated upon. In addition to proving the malignancy of the growth in each case, there is the necessity of ascertaining the state of the patient after the operation. It is not an easy thing to do. Especially is this so among hospital patients; they often change their places of abode without leaving any address. To have any real value, inquiries have to be made from time to time over long periods. For instance, in one of my cases the patient has been kept under observation, and communicated with regularly, for fifteen years.

The evidence of non-recurrence may be obtained either by actual vaginal examination, or by seeing the patient at intervals, and seeing that she continues in good health, or by hearing from her medical attendant at intervals that she continues well, and in some cases by hearing from the patient herself that she continues well.

No doubt the most satisfactory thing is to examine the patient. In most of the cases which I record, where the disease has not returned, I have myself examined the

patients from time to time. as will appear in the subsequent account of each of them. In some cases, however, when the patient continues well. she may not be unwilling to come and see you. but she will object to being examined, as she has nothing the matter with her.

In some cases. again. one can only hear by letter from the patient. or from her doctor from time to time. This evidence is not so unsatisfactory as it might appear, and for this reason. In those cases in which recurrence takes place the downward progress to a fatal issue is generally a matter of months: so that if inquiries made at long intervals—once a year. for instance—result in a favourable report, there can be no reasonable doubt that the disease had not recurred, say, six months before the date of her communication. For instance. if a patient writes that she is in good health and free from any symptoms in July. it is at all events good evidence that she was free from recurrence in the preceding January.

Numerous cases of radical operation for cancer—either supra-vaginal amputation, or vaginal hysterectomy—have been published from time to time. but I am not aware of any considerable series of those cases in which the proof. both of the malignancy of the growth, and especially of the condition of the patients many years after the operation, has been given so conclusively and in such detail as in the present series of cases. As regards the after-history especially it will be seen that I have given the date on which I have examined the patient, or on which I have seen her without examining her, or on which I heard from herself by letter, or heard from her usual medical attendant by letter.

As I have never known in my own experience recurrence of the disease to take place later than during the fourth year after operation, I am inclined to regard four complete years of freedom from recurrence as practically equivalent to a cure of the disease.

I will, therefore, here first give an account of fourteen cases of cancer of the cervix in which from four to fifteen years have elapsed without recurrence of the disease. The cases fall naturally into two groups:—

1. The group in which the radical operation was the supra-vaginal amputation of the cervix.

2. The group in which the radical operation performed was vaginal hysterectomy.

As regards both groups, the list is complete down to April, 1899. I select this date as being the time at which I completed my fortieth case of vaginal hysterectomy for cancer. It also has the advantage that at the time of writing (April, 1902) there are, of course, no cases in either group in which a shorter period than three years has elapsed since the operation.

GROUP I.—Cases of Cancer of the Cervix treated by the Supra-Vaginal Amputation of the Cervix.

Up to April, 1899, I had performed the supra-vaginal amputation of the cervix in thirty-three cases. An analysis of the after-history of these cases shows the following results:—

In eight cases, from four to more than fifteen years are known to have elapsed without recurrence having taken place. Thus:—

Case 6 was known to be free from recurrence on July 12th, 1902, the date on which I last examined her at my house. The date of her operation was March 17th, 1887; so that the interval without recurrence is more than fifteen years. The growth in this case was a squamous-celled epithelioma.

Case 12 was known to be free from recurrence on April 2nd, 1900, the date on which I last examined her (at my house). The operation was performed on May 31st, 1888; so that the interval without recurrence was eleven years and ten months. The growth was a squamous epithelioma.

Case 16 was known to be free from recurrence on November 5th, 1896, the date on which I last examined her (at the London Hospital). The operation was performed on August 26th, 1889; so that the interval since the operation without recurrence was over seven years. The growth was a squamous epithelioma.

Case 17 was known to be free from recurrence on April 28th, 1902, the date on which I last heard from her by letter. The date of her operation was February 18th, 1890; so that the interval without recurrence in this case is over twelve years. The growth was a columnar-celled carcinoma.

Case 20 was known to be free from recurrence in February, 1902, by a letter from herself. The date of her operation was January 29th, 1893; so that the interval since the operation without recurrence is nine years. The growth was a squamous epithelioma.

Case 29 was known to be free from recurrence on May 5th, 1902, the date on which I last examined her (at my house). The date of the operation was October 11th, 1896; so that the interval without recurrence in this case is five years and a half. The growth was a squamous-celled epithelioma.

Case 31 was known to be free from recurrence on June 6th, 1901. The date of her operation was July 15th, 1897; so that the interval without recurrence was four years, less thirty-nine days. The growth was a squamous-celled epithelioma.

Case 33 was known to be free from recurrence on April 11th, 1902. The date of her operation was March 26th, 1898. The interval since the operation without recurrence is therefore more than four years. The growth in this case was a squamous-celled epithelioma.

Many authorities abroad, however, fix on five years without recurrence as equivalent to a cure, and on that basis my thirty-three cases at present show six (Nos. 6, 12, 16, 17, 20, 29) that have been five to fifteen years without recurrence—*i.e.* 18 per cent. of cures. As I have not known any instance in which the disease recurred later than the fourth year among my own cases, I am content to regard four complete years of freedom from recurrence as generally equivalent to a cure. On that basis, 24·8 per cent. of my thirty-three cases treated by the supra-vaginal amputation remained well from four to fifteen years after the operation.

The full notes of these cases are as follows:—

CASES OF CANCER OF THE CERVIX IN WHICH THE SUPRA-VAGINAL AMPUTATION WAS PERFORMED, AND IN WHICH LONG INTERVALS HAVE ELAPSED WITHOUT RECURRENCE.

CASE 6.*—**Squamous-Celled Carcinoma of the Vaginal Portion of the Cervix. Supra-Vaginal Amputation. Patient quite Well more than Fifteen Years afterwards.**

Mrs. F. P., a married woman, aged forty-two, was admitted into the London Hospital under my care on

Fig. 20.—(Case 6 in the series of supra-vaginal amputations of the cervix for cancer.) The malignant ulcer is seen on the vaginal portion of the cervix as it appeared through the speculum.

Fig. 21.—Shows a side view of the specimen in Case 6 after removal.

March 12th, 1887, at the request of Dr. Dundas Grant. She had been married sixteen years, but had never been pregnant. Her weight on admission was 7st. 9½lb.

History of the Present Illness.—She was quite well until seven years ago. Her first trouble was dyspareunia. She had also much pain in the lower part of the back, and

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

was troubled to some extent with the "whites." Menstruation at that time was scanty, but regular. She said that about that time she was admitted into the Samaritan Hospital for seven weeks, and was told that she had "inflammation of the womb" and "ulceration." She said that a stem pessary was inserted, and the inflammation increased, so that the pessary had to be removed. After a time another pessary was inserted. On leaving the Hospital she improved. The menstrual flow became more

Fig. 22.—Case 6.* The section, and the drawing of it, were prepared by the Clinical Research Association under Mr. Targett's direction. His report is as follows:—"The drawing shows thick branching processes of squamous-celled epithelioma dipping down into the fibrous substance of the cervix uteri. There is much small-celled infiltration of the tissues around the epithelial processes." Interval without recurrence more than fifteen years.

abundant, and the dyspareunia less. She had gone on fairly comfortably since then till six months ago. She then experienced a return of the dyspareunia, and pain in the lower part of the back and left iliac region, which was relieved when she lay down. She was at

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

that time troubled with sickness, which came on after every meal; but she had been much better in that respect lately. The pains referred to had increased during the last six weeks, so that coitus had been impossible. For two months previously a gush of blood had followed coitus on each occasion.

Menstrual History.—The catamenia appeared when she was between sixteen and seventeen, and then did not recur to any extent till marriage at the age of twenty-five. She was "unwell" for most of the three months following marriage. After that she was regular every four weeks. The loss was scanty, and generally pale. There was no history of cancer in the family.

There had been no trouble connected with micturition, but the bowels had generally been constipated.

Present State, March 14th, 1887.—On inspection of the external genitals, a little red patch the size of a pea is seen on the posterior margin of the urethral orifice like a small vascular caruncle. Through the speculum (see Fig. 20), in the situation of the external os, and replacing it, there is a somewhat shallow and rather conical ulcer; that is to say, the ulcer is deepest in the centre, and becomes shallower towards the periphery. The surface of the ulcer is red, somewhat granular, and ends abruptly at the periphery by a very slightly raised margin. The whole surface of the ulcer bleeds very easily on gentle examination. The ulcer is still confined to the tissues of the cervix. The cervix for the most part feels soft, but here and there in the area of disease are felt little hard prominences. After emptying the bladder, the body of the uterus is found bi-manually to be rather small, and anteflexed. The cervix feels very large relatively to the body of the uterus. The uterus is freely movable.

Operation, March 17th, 1887. — The supra-vaginal amputation of the cervix was performed in the manner previously described. The part removed measured an inch and a half in length, and the lines of section appeared to be quite clear of the disease in every direction.

Histological examination of the specimen showed that it was a squamous-celled carcinoma. The specimen and

sections of it were shown at a meeting of the Royal Medical and Chirurgical Society of London on December 13th, 1892, when a paper of mine on the subject of the supra-vaginal amputation was read. I also showed a section of the growth at a meeting of the Obstetrical Society of London on June 4th, 1902.

I sent a piece of the cervix to the Clinical Research Association, and Mr. Targett reported on it as follows:—"The growth is a squamous-celled epithelioma of the cervix uteri, which is affecting its surface, but has not (in this specimen) spread deeply into the substance. There are no cell-nests in the epithelial processes" (Fig. 22).

I have examined this patient on several occasions—for instance, on May 16th and October 27th, 1887; on January 2nd, 1888; and I had a letter from her on December 12th, 1892, saying that she was quite well. I have had letters also from her at intervals since that time, with a report to the same effect. I also saw and examined her on September 6th, 1900, at the London Hospital. She had then come up complaining of a little trouble connected with micturition, which made her uneasy lest the original disease might have returned. On examination, however, there was a small vascular caruncle found (it will be noticed that there was a small caruncle mentioned as present when she came to the Hospital in 1887), which appeared to be the cause of her present trouble. The scar at the top of the vagina was perfectly healthy, and the body of the uterus was freely movable. There was no evidence whatever of any return of the original disease, nor were there any symptoms present suggesting recurrence. She said that she had not "seen anything" since the operation. Her weight on this occasion was 7 st. 13 lb. I also had a letter from her dated April 2nd, 1902, saying that she was quite well. I was fortunately able to get this patient to come and see me at my house on July 12th, 1902. I examined her, and found no sign of recurrence.

It will be seen, therefore, that in this case the removal of the whole cervix has been sufficient to give the patient an immunity from the malignant disease for more than

fifteen years. An immunity for so long a period may, I think, fairly be considered as synonymous with a cure. It will also be noticed that the specimen and sections of it have been submitted to independent examination, so that there can be no doubt as to the nature of the disease. Both the specimen and sections of it are still in my possession, and are open to the inspection of anybody interested in the subject.

There are extremely few cases of cancer of the cervix (squamous epithelioma) on record in which so long a period as fifteen years has elapsed without recurrence after operation, and in which the malignant nature of the growth removed is beyond dispute. Thus, out of sixty-one cases of squamous carcinoma recorded by Cullen, in which hysterectomy was performed, there are only two in which more than four years have elapsed without recurrence. In these two cases the intervals since the operation without recurrence were six years and two months, and six years respectively.

These are the only two cases out of the sixty-one which are entitled to be considered cured, whether, with Continental authorities, we adopt the five-year interval without recurrence as entitling a case to be classed as cured, or whether we adopt the four-year interval, which I myself believe to be generally sufficient.

Again, in Winter's paper* only one case of cancer of the cervix is mentioned as being free from recurrence as long as fourteen years.

CASE 12.†—**Squamous-Celled Carcinoma of the Vaginal Portion of the Cervix. "Cauliflower" Growth. Supra-Vaginal Amputation. Patient well nearly Twelve Years afterwards.**

Mary C., aged forty-two, at that time matron of the East London Nursing Association, was sent to me on May 19th, 1888, by Dr. Cursham Corner. She had been

* *Zeitschrift für Geburtshülfe und Gynäkologie*, XLIII. Band, 3 Heft, 1900, p. 521.

† The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

married nineteen years, and had had two children, the last sixteen years previously. She had had no miscarriages. She had pelvic peritonitis after the second confinement.

Fig. 23.—The cauliflower growth as seen through the speculum in Case 12.

History of the Present Illness.—For the last two or three months she had had pain in the lower abdomen, especially in the left iliac region, on walking. The pain

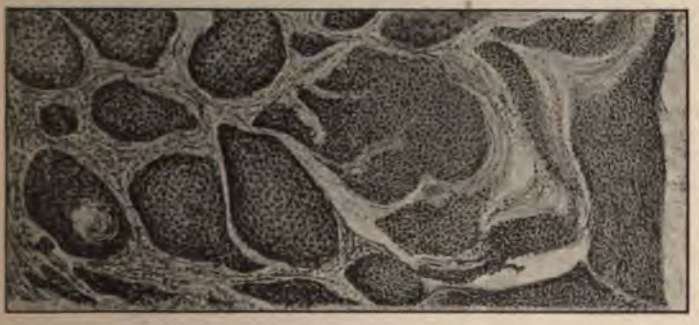


Fig. 24.—Section of the growth in Case 12. Low power. Squamous-celled carcinoma.

went down the left leg. She was always easier on lying down. Five weeks ago she had had a discharge from the vagina like "coffee grounds." It was offensive. This discharge continued till a week later, when the ordinary menstrual period came on. Though a week had elapsed

since her last period, she was still losing a brown discharge. She did not think she had been getting thinner. The catamenia had usually been regular every four weeks, lasting six days, and had been attended with a good deal of pain in the left iliac region for three days before and during the first twenty-four hours of the period, but not afterwards. For many years she had been subject to

Fig. 25.—The same section of the growth in Case 12,* seen under a high power (squamous-celled carcinoma). The portion of the section in view corresponds to the left-hand corner of the preceding figure.

a "white" discharge between the periods; but for the last two or three months the inter-menstrual discharge had been yellow, or sometimes brown.

On examination a flat "cauliflower" growth was found on the posterior lip of the cervix (Fig. 23). It was raised

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

about a sixteenth of an inch above the adjacent healthy surface, and occupied an area, roughly, about the size of a two-shilling piece. It bled readily on touching it. The uterus was freely movable.

She readily consented to undergo any treatment that might be thought desirable. She was accordingly admitted into the London Hospital under my care, and on May 31st, 1888, I performed the supra-vaginal amputation of the cervix. The chief points requiring mention as regards the operation are that the incisions made in the vaginal walls in order to free the cervix were made as far away from the growth as possible; also that it was found desirable to incise the perineum so as to afford ample room for the various manipulations. Douglas's pouch was not opened. No ligatures were used. Pressure forceps were left on the bleeding vessels. These were removed in twenty-four hours. (I think it is generally better, however, to leave the pressure forceps attached for at least forty-eight hours.)

The extreme length of the specimen, measured after being six days in spirit, was $2\frac{1}{4}$ in.

On June 7th, in order still further to increase her chance of immunity from recurrence of the disease, I applied Paquelin's cautery to the posterior and lateral aspects of the wound left after removal of the cervix.

The patient's recovery from the operation was uneventful. The temperature only once reached 100°, which was on the evening of June 2nd. On other occasions it was never above 99·5°. Her weight before the operation was 8 st. $11\frac{1}{2}$ lb.

I have seen this patient at my house on various occasions since her operation, and have examined her. For instance, I examined her on October 7th, 1892, and found no evidence of recurrence. Her weight on that occasion was 9 st. 10 lb. I have also seen her and examined her on the following dates: June 7th, 1893; January 25th, 1894; August 13th, 1894; October 10th, 1895; July 23rd, 1896; March 4th, 1897; September 22nd, 1898; August 31st, 1899; April 2nd, 1900.

There was never any sign of recurrence during the whole of this long period of nearly twelve years. She had suffered, however, from various illnesses of an altogether different nature, such as influenza once or twice, gastric catarrh occasionally, and in the autumn of 1898 from gallstones; also in 1899 she suffered from gallstones, and passed several. The menopause occurred in the early part of 1896.

The specimen and sections of it were shown at a meeting of the Royal Medical and Chirurgical Society on December 13th, 1892. In 1901 I sent a portion of this specimen to the Clinical Research Association, and received the following report:—

"This section shows an early squamous-celled epithelioma of the portio vaginalis of the cervix uteri. There is an exceptional amount of inflammatory infiltration of the substance of the cervix far away from the growth. Can this be due to caustics?

"(Signed) J. H. TARGETT."

In this case the patient is known, as the result of actual examination, to have been free from any sign of recurrence of the disease for nearly twelve years. The evidence that the growth was really malignant is also quite complete. The specimen and sections of it are still in my possession (see Figs. 24 and 25).

I think an immunity for so long a period as twelve years may, as in the previous case, be fairly regarded as synonymous with a cure of the disease.

I last saw and examined this patient on April 2nd, 1900, when there was no sign of recurrence, and she was in fair general health. She died on January 23rd, 1901. I am indebted to Dr. Maguire, of Wolverton St. Mary, Stony Stratford, for particulars of her last illness, and for telling me the date of her death. He says "there was no recurrence of disease in the uterus or vagina. The liver was greatly enlarged, reaching down as far as the iliac region. It was hard and nodulated; one nodule in the lower margin was as large as a walnut. There was intense jaundice of a dark greenish colour for some

months, with great pain and emaciation. There was no ascites. The immediate cause of death was hæmatemesis." Dr. Maguire, and two others who saw the patient, considered the condition to be cancer of the liver. On the other hand, another practitioner, who knew her well before she went to live at Wolverton, considered the disease to be cirrhosis of the liver. I did not see her in this last illness myself, so that I can express no opinion as to its nature from actual observation. I knew the patient, however, for nearly twelve years, and was aware that she had suffered from gall-stones more than once, and had passed several. Also, unfortunately, it was within my knowledge that one of the principal antecedents of cirrhosis of the liver had been present in her case. While it must therefore remain uncertain what the actual disease of the liver was, it is satisfactory to know that there was no recurrence of the cancer in the pelvis. Even if the patient had cancer of the liver, it could scarcely be regarded as due to recurrence of the disease (squamous carcinoma) which had originally affected the vaginal portion of the cervix twelve years before.

CASE 16.*—**Squamous-Celled Carcinoma of the Cervix during Pregnancy. Supra-Vaginal Amputation of the Cervix. Miscarriage. Patient known to be Well more than Seven Years afterwards. Since lost sight of.**

Eliza A., aged forty, was admitted into the London Hospital under my care on August 21st, 1889. She had been married twenty-one years, and had had eight children and two miscarriages. The last confinement was a year and nine months before admission, and the last miscarriage four years before admission.

History of the Present Illness.—In October, 1888, she began to suffer from a discharge, at first white, but afterwards yellow, and with a little blood in it constantly. In March, 1889, she had an attack of severe flooding, and she had had similar attacks every month up to the time of her admission. Large clots were

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

passed each time. The catamenia appeared when she was ten years old. She then "saw nothing" till she was between thirteen and fourteen, when she became quite regular every four weeks. Her appetite had been bad since the beginning of the illness.

State on Admission.—The external genitals and neighbouring skin were inflamed, as they become in patients who are subject to any constant discharge. The vaginal

Fig. 26.—Drawing of the specimen removed in Case 16.* The growth has assumed a lobulated, semi-polypoid form in places. It is a squamous-celled epithelioma.

portion of the cervix was considerably enlarged in circumference, and there was an irregular lobulated growth on it, chiefly involving the posterior lip (Fig. 26). It was hard but brittle, and bled readily on touching it. The growth had a yellowish colour. The uterus was freely movable, and somewhat enlarged. Its exact size was not made out well till just before the operation, when the

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

patient was under the influence of an anæsthetic. The patient was very fat, and her weight was 12 st. 3 lb.

On August 26th, 1889, the supra-vaginal amputation of the cervix was performed. When the cervix had been freed up to the level of the internal os, it was cut off at that level with Paquelin's cautery, and the cautery was

Fig. 27.—Section of the growth in Case 16.* It is a squamous-celled epithelioma (see Mr. Targett's report in the text).

also applied freely to the posterior and lateral aspects of the cervix. Douglas's pouch was opened to a small extent, the opening being about a quarter of an inch in length transversely. The length of the cervix after removal was an inch and a quarter. Four pairs of small pressure forceps were left on bleeding points. They were taken off twenty-four hours later.

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

The highest temperature after the operation was 100°, which was reached on four occasions—the evenings of the second, fifth, and seventh days; but the pulse rate never exceeded 85.

It should be mentioned that the examination before the operation showed that she was about three months' pregnant, and she miscarried on the evening of August 29th —that is, three days after the operation. The patient did quite well, and left the Hospital on September 12th.

The fact that she was pregnant at the time of the operation caused the parts to be unusually vascular, and besides, in general, pregnancy is an unfavourable complication as regards recurrence. The physiological activity present in the uterus and its neighbourhood during pregnancy appears to favour an early infiltration of the surrounding tissue. However, in this particular case the patient for some years was very regular in coming to report herself at the Hospital, and was known to be free from any sign of recurrence on November 5th, 1896, when I last examined her at the London Hospital, more than seven years after the operation. I have been unable to get any information about her since.

The specimen and sections of it were shown at a meeting of the Royal Medical and Chirurgical Society on December 13th, 1892. A section of the growth was also shown at a meeting of the Obstetrical Society of London on June 4th, 1902. A portion of the growth was sent to the Clinical Research Association in 1901. The report is as follows:—

"This is a squamous-celled epithelioma, which has penetrated deeply into the substance of the cervix uteri. There are very few cell-nests.

"(Signed) J. H. TARGETT."

A glance at the specimen in this case is sufficient to show that the case was a more advanced one than either of the two preceding. The patient was known to have remained well for more than seven years. Unfortunately I have not seen her, or been able to trace her since then. She was a patient whose general health was otherwise not at all good. She had extensive chronic ulceration of

one of her legs, and there was good reason to believe that she had suffered from syphilis.

Case 17.*—Columnar-Celled Carcinoma of the Cervix. Supra-Vaginal Amputation of the Cervix. Patient quite Well more than Twelve Years afterwards.

Mrs. B., a clergyman's wife, fifty-three years of age, came to see me on January 24th, 1890. She had had two confinements, the last twenty-two years ago. She was regular until about three years ago, when the menopause occurred. She had been feeling weak ever since the summer (1889), and since that time had had a yellow

Fig. 28.—Drawing of the cervix as it appeared through the speculum in Case 17.*

vaginal discharge, blood-stained from time to time. She had had no pain.

On examination, a "cauliflower"-like growth about the size of half a walnut was found attached to the right half of the cervix (Fig. 28). It was very brittle, and bled readily on touching it. A few days later the patient was carefully examined under anæsthesia with the object of ascertaining the fitness of the case for operation. The uterus was quite freely movable, and there was no evidence that the disease had spread beyond the limits of the cervix. The patient was advised to have either supra-vaginal amputation of the cervix performed, or vaginal hysterectomy,

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

according to what might seem necessary at the time of the operation. She readily consented, and accordingly the operation took place on February 18th, 1890.

The points in the operation that require particular mention are that Douglas's pouch was very freely opened, the opening being one inch in measurement transversely. The cervix was removed at the level of the internal os, and it was slit up to see how near to the internal

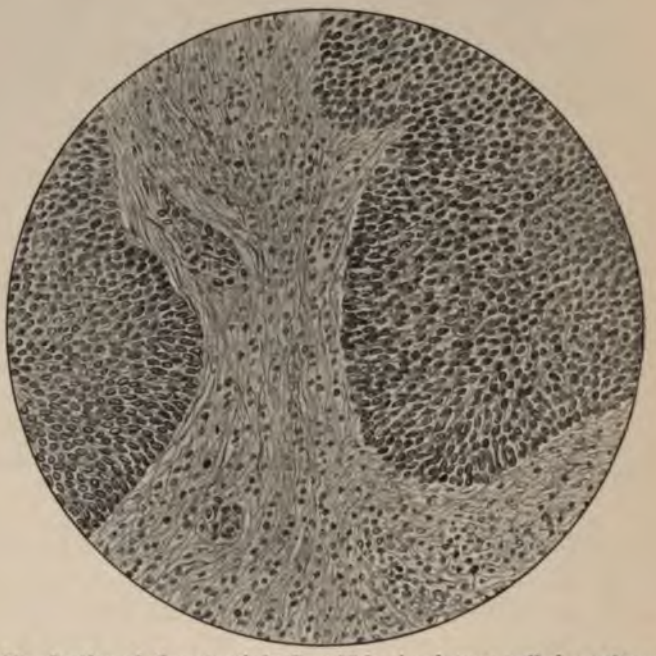


Fig. 29.—Section of the growth in Case 17.* A columnar-celled carcinoma or malignant adenoma (see Mr. Targett's report in the text).

os the disease had extended. There seemed to be an ample width of apparently healthy tissue between the upper limit of the growth and the upper limit of the cervix, and accordingly I decided to be content with removing the cervix, although it would have been a very easy matter to have removed the remainder of the

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

uterus, the body of which was quite small, no doubt owing to senile atrophy. Although Douglas's pouch had been opened so freely, I applied Paquelin's cautery to the right aspect of the wound. It should also be mentioned that the cervix was cut off from the body of the uterus with the cautery, after having been cleared from its attachments up to the level of the internal os in the usual way. The opening in Douglas's pouch was closed with one suture, and a small indiarubber drainage-tube was left, so that one end was just within the peritoneal cavity, and the other in the vagina. The tube was found loose in the vagina next day. Pressure forceps were left on the vessels for thirty-six hours.

The patient subsequently did very well. The highest temperature was 101° on the evening of the second day, and after that it did not rise above normal.

Amongst others present at the operation was Dr. Hugh Smith, now practising in South Africa, who was at that time Resident Accoucheur at the London Hospital.

This patient was sent to me by Dr. Godson. I have heard from him from time to time that she remains well. It also happened that the patient was a friend of one of the Sisters at the London Hospital, who is now Matron of the Westminster Hospital, and through her I have been able to trace the after-history of the patient also from time to time.

After losing sight of her for some time, I was fortunately able to get her address, and in answer to my inquiries she wrote to me on April 28th, 1902, saying that she was still quite well. The interval without recurrence is therefore more than twelve years.

The specimen and sections of it were shown at a meeting of the Royal Medical and Chirurgical Society on December 13th, 1892.

I also showed a section of the growth at a meeting of the Obstetrical Society of London on June 4th, 1902.

By way of obtaining an independent opinion on the histological characters of the growth, I sent one of the sections to the Clinical Research Association in 1901, and received the following report from Mr. Targett:—

"The growth in the cervix uteri (Mrs. B.) is a columnar-celled carcinoma of the type known as malignant adenoma. The tubular arrangement of the cells is very distinct in places, and the substance of the cervix is very deeply invaded."

In this case, as in the three preceding ones, the prolonged interval—more than twelve years—which has passed without recurrence may, I think, fairly be considered as equivalent to a cure of the disease.

Case 20.*—Squamous Carcinoma of the Cervix. Supra-Vaginal Amputation of the Cervix. Interval since Operation without Recurrence, Nine Years.

Mrs. K., aged thirty-seven, came to see me on January 24th, 1893. She had been married thirteen years, and had had one child twelve years previously. She thought that she had had one or two miscarriages, the last about the year 1891. She was sent to me by Dr. Garry Simpson, of Acton.

She complained that she had had bleeding at times in between the periods. She had been regular every four weeks, but for about a year there had been some red discharge almost daily between times. For about five months she had had bleeding after coitus. She also complained of some pain across the lower abdomen.

On examination, a "cauliflower" growth was found on the vaginal portion, which bled very readily on touching it. It was friable, and clinically had all the characters of a malignant growth. The uterus was freely movable.

Operation, January 29th, 1893.—The supra-vaginal amputation of the cervix was performed. Paquelin's cautery was used to cut off the cervix from the rest of the uterus, when the cervix had been freed from its attachments as high as the internal os. The cautery was also applied freely to the anterior and left aspects of the "bed" from which the cervix had been dissected. Pressure forceps were used to secure the vessels.

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219)..

The patient made a good recovery from the operation. She has continued to live in the same place as when she came to me in the first instance, and therefore I have been able to trace her progress by communicating with Dr. Garry Simpson from time to time. There has never been any sign of recurrence.

I had a letter from the patient herself in February, 1902, in which she said she had had no return of the bleeding, or other symptoms.

In this case, however, the patient suffered rather severely from dysmenorrhœa, which she described as being like "neuralgic pains," for some years after the operation. This was no doubt due to contraction of the aperture of communication with the uterus in the centre of the scar.

With a view of obtaining a recent independent report on the histological characters of the growth in this case, I sent a section of it in 1901 to the Clinical Research Association, and received the following report from Mr. Targett:—

"Specimen (K.) is a squamous-celled epithelioma of the cervix uteri. Numerous branching processes of epithelioma have penetrated the substance of the cervix, and a few cell-nests may be seen; but in the larger alveoli the central cells have undergone granular degeneration."

I also showed a section of the growth at a meeting of the Obstetrical Society of London on June 4th, 1902.

Case 29.*—Squamous-Celled Carcinoma of the Cervix. Supra-Vaginal Amputation of the Cervix. Patient remains Well Five Years and a Half after the Operation.

Mrs. H., aged thirty-one, was sent to see me by Dr. Clemow, of Kensington, on October 5th, 1896. She had been married eight years, and had had two children, the last four years and four months previously. She had had no miscarriages. She said that she had had a white or

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

yellow discharge for two or three years, which had become more profuse lately; the discharge had lately been occasionally blood-stained. She complained of some feeling of nausea in the morning. The catamenia were not quite regular; they occurred about ten times in the year. Each period lasted three or four days; it was unattended with pain, and the amount lost was about the average. She had complained also of some pain in the lower part of the back and "inside" three months previously. It was

Fig. 30.—Section of the growth removed in Case 29.* A squamous-celled epithelioma (see Mr. Targett's report in the text).

then rather bad for a month or six weeks, but did not cause her to stay in bed. She also said she had not been very strong, and had been easily fatigued. Her appetite had not been good.

It will be seen that there was little of special significance in the history except the vaginal discharge, which had been occasionally blood-stained lately.

Nothing abnormal was detected on examining the abdomen.

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

On vaginal examination the vaginal portion of the cervix was found to be evidently the seat of a growth, not, however, forming any considerable projection, on the anterior lip. This bled readily on touching it, and the uterine sound pressed against the growth penetrated its substance easily. The uterus was somewhat retroverted, about normal in size, and it seemed freely movable. There was a shallow ulcer on the anterior fornix very close to the vaginal portion, but still probably anatomically on the vaginal wall.

The case seemed to me to be a fairly early one of cancer of the vaginal portion, and I advised the patient to have the cervix removed by the supra-vaginal amputation. On my advice, she went to see Sir John Williams, who confirmed my opinion as to the malignancy of the growth, and agreed it was a case for operation. She accordingly entered Fitzroy House soon afterwards, and the supra-vaginal amputation of the cervix was performed on October 11th, 1896. Her weight the day before the operation was 8 st. 7 lb.

She did quite well after the operation, and I have been fortunately able to see her from time to time. I examined her on nine occasions during the two years following the operation, the last time on October 28th, 1898, and on each occasion the scar was quite healthy. The opening into the uterus in the middle of the scar had become very small, and from time to time had caused a certain amount of dysmenorrhœa, and had also caused the duration of the period to be increased, though the quantity lost had not been more than normal.

I last examined her at my house on May 5th, 1902. The scar was quite healthy, and there was no sign of recurrence. The interval since the operation without recurrence is therefore five years and a half.

Microscopical examination of the growth showed that it was a squamous-celled epithelioma (Fig. 30).

A section made soon after the operation was recently sent to the Clinical Research Association for independent examination. The report on it by Mr. Targett is as follows:—

"This growth in the cervix is a squamous-celled epithelioma, with thick down-growths of epithelium in the subjacent tissues."

I showed this section of the growth at a meeting of the Obstetrical Society of London on June 4th, 1902.

Case 31.*—Squamous-Celled Carcinoma of the Cervix. Supra-Vaginal Amputation of the Cervix. Patient Well nearly Four Years after the Operation.

R. C., aged forty, was readmitted under my care into the London Hospital on July 14th, 1897. It is interesting to note that she had been in the Hospital under my care in the preceding May. It was an example of a very exceptional case, in which for a time there was some doubt as to the nature of the condition present.

Prior to her admission in May, she had had pain in the lower part of the abdomen and back since the preceding Christmas, and she had had also a small quantity of thin, yellow discharge, streaked with blood occasionally. The discharge had not been particularly offensive at that time. She thought she had lost weight.

This, it will be seen, was a history strongly suggestive of the presence of a malignant growth; but on vaginal examination at that time (in May) the anterior lip was found somewhat enlarged, and on it was seen what was taken to be an erosion equal in area to that of a florin. This bled readily when touched with a probe, but the probe did not penetrate into the tissue when pressed against it. The posterior lip was found to be quite healthy.

As the result of the examination at that time, I was of opinion that the erosion was non-malignant, and it was treated with iodised phenol, and the patient was also given vaginal douches of tannic acid. The appearance of this erosion improved very much under the treatment mentioned. She went home with the understanding that she was to come up again for further examination in

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

July. The second examination satisfied me that the case was really one of cancer of the cervix.

Previous History.—The catamenia appeared when she was seventeen, and from the commencement she had been regular every four weeks for several years, but for the past four or five years menstruation had occurred every three weeks. The periods had always lasted five days, and were accompanied with a good deal of pain in the back.

The symptoms (discharge and so on) which were noted

Fig. 31.—The vaginal portion of the cervix as seen with the speculum in Case 31.*

as having been present when she was seen in May, continued much as before between the time of her discharge from the Hospital and the date of her readmission in July.

State on Readmission, July 14th, 1897.—The vaginal portion of the cervix was the seat of a large nodule of malignant growth, like a segment of a sphere, projecting very slightly beyond the level of the os, and incorporated with the tissues of the cervix. The nodule bled readily on examination, and broke down on pressure with the sound.

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

Operation, July 15th, 1897.—The supra-vaginal amputation was performed in the manner already described. Douglas's pouch was opened. A large number of Wells's forceps were used to secure the vessels. The cervix, when it had been freed to the level of the internal os, was cut off from the rest of the uterus with Paquelin's cautery.

It is worth noting that, when the patient had been put back to bed after the operation, there was, half an hour afterwards, a little bleeding, and it was thought better to give her a little more anæsthetic, and thoroughly re-examine the region of the wound. This bleeding was found to come from the posterior vaginal wall. Pressure forceps were put on the bleeding points, and a fresh plug of iodoform gauze introduced. The forceps were removed on July 19th, and the patient made an uninterrupted recovery.

A portion of the growth was sent to the Clinical Research Association, and reported on by Mr. Targett as follows:—

"This portion of the cervix uteri is deeply invaded by a squamous-celled epithelioma. The epithelial processes are large and branching, and a few cell-nests may be seen in different parts of the section."

I also showed the section, on which this report was made, at a meeting of the Obstetrical Society of London on June 4th, 1902.

After-History.—This patient afterwards came to see me at fairly frequent intervals at the London Hospital, and there never was any sign of the disease recurring. She, however, suffered from dysmenorrhœa of rather a severe character, evidently due to contraction of the opening leading from the uterus. This continued for some two or three years. At this time the quantity lost at each period became less and less, and finally the periods ceased, as regards the presence of any external loss of blood.

When I saw her early in June, in the year 1901, she told me the facts just narrated, and also said that she suffered from very severe pain in the lower abdomen.

On examination of the abdomen, a central uniform

swelling could be felt of the size of the uterus at the fourth month of pregnancy. At each upper angle of the uterus, just external to it, separated from it by a slight depression, could be felt another swelling the size of a duck's egg.

It was quite evident that the patient was suffering from hæmatometra, and that the central swelling was the uterus dilated by menstrual fluid to the size mentioned. Some active interference was urgently required.

The patient was put under an anæsthetic, and my intention was to make an opening in the centre of the scar at the top of the vagina, and so gain access to the uterine cavity, and let out the retained menstrual fluid. On making a small incision in the middle of this scar, and seeking to deepen it in the supposed direction of the uterine cavity, very severe bleeding suddenly occurred. At this stage of the proceedings it will be understood that the central opening was perhaps a quarter of an inch broad, and that a flap of tissue had been raised round this opening to the extent of another quarter of an inch in each direction. It was from somewhere under this flap that the profuse bleeding mentioned was taking place. I have no doubt myself that the stump of the uterine artery lay over the cervical stump, and was wounded with the scissors on this occasion.

Several efforts were made to seize the bleeding point with forceps as a temporary measure. It was found impossible to do so, however, and it will be understood that one had very little opportunity of getting at the spot, because there was, of course, no cervix to which to attach a volsella, so as to draw the uterus down, and owing to the size of the uterus it could not be pressed down to any extent worth mentioning. It became evident very soon that the bleeding was of such a serious character that, if it could not be stopped, the patient would die of hæmorrhage. It was found that it could be moderately well controlled by pressure with the finger in a particular direction. I gave directions for immediate preparations for an abdominal section, and had pressure maintained on the bleeding point while the preparations were made,

the patient still remaining more or less under the anæsthetic.

In this way some threequarters of an hour elapsed. I then opened the abdomen, and found, as I had expected, that the central swelling was the uterus, and that the swellings at the side of it were the dilated Fallopian tubes (hæmatosalpinx). I removed the whole of the uterus, and, working from above, secured the uterine vessels quite easily. An iodoform gauze drain was drawn down from above into the vagina, and a portion of this was left projecting from the lower angle of the abdominal wound, the rest of it being closed in the usual way.

At the end of the operation the patient really seemed very well. Her pulse was quite satisfactory. She had, however, undoubtedly lost a large quantity of blood during the preliminary attempt to make an opening into the uterus from below, and during the time that elapsed while preparations for abdominal section were being made, because the control of the bleeding by digital pressure was not perfect. Still, at the end of the abdominal operation I thought the prognosis was fairly good, and I was very much disappointed that she died within the next twelve hours, there being no fresh hæmorrhage, and death evidently being due to shock.

The case was the more disappointing because it was just four years since the cancerous cervix had been removed, and there was no sign whatever of any return of the disease, the only trouble being the pain caused by the retention of menses. In any other similar case I should most certainly not attempt to make an opening into the uterus from the vagina, but should start by doing an abdominal section, and remove the uterus from above. Had this been done in the present instance, I feel practically no doubt that the patient would have been alive now.

The inner parts of both Fallopian tubes were dilated: the outer parts of the Fallopian tubes were not dilated. Both ovaries were cystic, and were firmly adherent in Douglas's pouch. The vermiform appendix was adherent to the dilated uterus.

CASE 33.*—Squamous-Celled Carcinoma of the Cervix. Supra-Vaginal Amputation of the Cervix. Patient remains Well Four Years after the Operation.

Mrs. D., aged forty-two, came to see me on October 8th, 1897. She had been married twenty years, and had had two children, the last sixteen years previously; she had had no miscarriages.

History of the Present Illness.—She complained that her periods had been excessive for the last four to six months. Two years ago she had been irregular, going six or eight weeks without "seeing anything." Then the period would come on, and she saw some red discharge daily for four or five months. At the present time she had been regular every four weeks, the period lasting a week; the last period was very profuse. Between the periods for the last two years there had been some yellow discharge, occasionally blood-stained. She had suffered from backache occasionally, but there had not been much pain. She had become stouter the last two years. Micturition had been rather frequent lately.

On examination of the abdomen nothing abnormal was felt.

On vaginal examination a polypus the size of a large walnut was found hanging from the os uteri into the vagina.

The patient entered Fitzroy House soon afterwards, and the polypus, which was an ordinary fibroid, was removed with scissors.

The patient went on quite satisfactorily afterwards.

March 19th, 1898.—The patient came to see me just to satisfy herself that everything was satisfactory. She said that she had been regular since the removal of the polypus, but that on the last two occasions the period had come on a little before its time—five days and six days respectively. She had had no discharge in between her periods. She had had influenza since I last saw her. During the greater part of the time since she left Fitzroy House she had been

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

taking ergotine for two or three weeks at a time, and at first had been advised to use a vaginal douche. She had not, however, used this lately.

Examination.—On examination of the abdomen nothing abnormal was felt.

On vaginal examination the anterior lip of the cervix was found to be somewhat enlarged, and on it was a raised patch the size of a shilling, soft and bleeding readily on touching it. It seemed to me to be probably a cancerous growth in a very early stage.

Fig. 32.—Case 33.* Mr. Targett describes the section figured as follows:—"This is an early epithelioma of the cervix uteri. The section is taken from the portio vaginalis, and the drawing represents a down-growth of the surface epithelium extending into the fibrous stroma of the cervix along the course of the glandular follicle. Embedded in the deeper tissues is the lower extremity of a similar epithelial down-growth, and some of the follicular lining persists.

I advised the patient to see Sir John Williams, and he came to the same conclusion as regards the condition of the cervix as I had done. We advised the patient to have the cervix removed.

Accordingly she re-entered Fitzroy House, and I performed the supra-vaginal amputation of the cervix on

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

March 26th, 1898. Forceps were used to secure the vessels, and the cautery was used to cut off the cervix from the remainder of the uterus.

The patient made an uneventful recovery.

I have seen her regularly since, and so far there has been no return of the disease. I last examined her on April 11th, 1902, at my house, when the scar was quite healthy.

I should mention that this patient has unfortunately afforded an instance of a rather severe type of obstructive dysmenorrhœa, resulting from the contraction of the cicatrix, and it was necessary to dilate this opening under an anæsthetic with Matthews Duncan's dilators up to No. 16. This relieved her considerably for some time; but I fear, from the amount of the pain that she still experiences at the period, that a second dilatation may become necessary.

TABLE I.—**Eight Cases (out of Thirty-Three) of Supra-Vaginal are known to have been without Recurrence**

N.B.—The numbers refer to the consecutive series cervix for

No. in the series of thirty-three cases of supra-vaginal amputations.	Disease.	Date of operation.	Place of operation.
6. Mrs. P.	Cancer of cervix	March 17th, 1887	London Hospital
12. Mrs. C.	Cancer of cervix	May 31st, 1888	London Hospital
16. Mrs. A.	Cancer of cervix	Aug. 26th, 1889	London Hospital
17. Mrs. B.	Cancer of cervix	Feb. 18th, 1890	Private (with Dr. Godson)
20. Mrs. K.	Cancer of cervix	Jan. 29th, 1893	Private (with Dr. Godson and Dr. Garry Simpson, of Acton)
29. Mrs. H.	Cancer of cervix	Oct. 11th, 1896	Private (Fitzroy House), sent to me by Dr. Clemow
31. Mrs. C.	Cancer of cervix	July 15th, 1897	London Hospital
33. Mrs. D.	Cancer of cervix	March 26th, 1898	Private (Fitzroy House)

Amputation of the Cervix for Cancer in which the Patients from Four to Fifteen Years after the Operation.

of thirty-three supra-vaginal amputations of the cancer.

Interval since operation without recurrence.	Microscopic characters of growth.
More than fifteen years, to July 12th, 1902, the date on which I last *examined* her at my house. The patient was sent to me by Dr. Dundas Grant	Extract from the Clinical Research Association's report (Mr. Targett): "The growth is a squamous-celled epithelioma of the cervix uteri."
Nearly twelve years, to April 2nd, 1900, the date on which I last examined her at my house. She was sent to me by Dr. Cursham Corner, of Mile End	Extract from the Clinical Research Association's report (Mr. Targett): "This section shows an early squamous-celled epithelioma of the portio vaginalis of the cervix uteri. There is an exceptional amount of inflammatory infiltration of the substance of the cervix far away from the growth."
Seven years, to Nov. 5th, 1896, the date on which I last examined her at the London Hospital	Extract from the Clinical Research Association's report (Mr. Targett): "A squamous-celled epithelioma, which has penetrated deeply into the substance of the cervix uteri. There are very few cell-nests."
Twelve years, to April 28th, 1902, the date on which I last heard from her	Extract from the Clinical Research Association's report (Mr. Targett): "The growth is a columnar-celled carcinoma of the type known as 'malignant adenoma.'"
Nine years, to Feb., 1902, when I last heard from her by letter	Extract from the Clinical Research Association's report (Mr. Targett): "A squamous-celled epithelioma of the cervix uteri."
Five years and a half, to May 5th, 1902, the date on which I last examined her	Extract from the Clinical Research Association's report (Mr. Targett): "This growth in the cervix is a squamous-celled epithelioma, with thick down-growths of epithelium into the subjacent tissues."
Nearly four years, to June 6th, 1901, when I examined her.	Report (by Mr. Targett) from Clinical Research Association describes the growth as a squamous-celled epithelioma.
Four years, to April 11th, 1902, the date on which I last examined her at my house	Extract from the Clinical Research Association's report (Mr. Targett): "These sections of the cervix uteri exhibit a squamous-celled epithelioma in an early stage of development."

CHAPTER IV.

THE AFTER-RESULTS OF RADICAL OPERATIONS FOR CANCER OF THE CERVIX (Continued).

GROUP II.—CASES OF CANCER OF THE CERVIX IN WHICH VAGINAL HYSTERECTOMY WAS THE OPERATION PERFORMED, AND IN WHICH LONG INTERVALS HAVE ELAPSED WITHOUT RECURRENCE.

CASE 15.*—Squamous Carcinoma of Vaginal Portion of Cervix. Vaginal Hysterectomy. Patient remained free from Recurrence Six Years (*i.e.* till the time of her death, which was due to phthisis).

MRS.. J., a married woman, aged fifty-seven, was seen by me in consultation with Dr. Howse, then of Barking, E., but now of Reading, in February, 1894. She had had thirteen children, the last fifteen years previously, and two miscarriages some time before the last confinement. The complaint when I saw her was that she had been losing blood from the vagina for eight weeks. Before this appeared there had been a yellow vaginal discharge for nine months. She had had no pain. She thought she had lost flesh, and said her appetite had been bad. The menopause occurred at the age of fifty-one.

On examination there was found a large "cauliflower"-like growth springing from the vaginal portion of the cervix, forming a ring of soft projecting growth round the os uteri, and bleeding readily on examination. It was decided to make a thorough examination under anæsthesia,

* In the Table of forty consecutive vaginal hysterectomies performed for cancer (p. 224).

with the understanding that, if the conditions were found favourable, the uterus should be removed.

Accordingly on February 27th, 1894, the patient was anæsthetised. It was then found that the uterus could be drawn down easily to the vulva, and that the growth did not seem to have spread beyond the limits of the cervix. There was a ring of apparently healthy vaginal portion outside the malignant growth all the way round it. This

Fig. 33.—Uterus removed by vaginal hysterectomy in Case 15 * (squamous carcinoma of vaginal portion of cervix).

A, A. Point to parts of the vaginal portion, to the naked eye apparently healthy. There was a ring of similar vaginal portion all the way round, external to the growth.
B. The extensive cauliflower growth.
C. Peritoneum on anterior surface of body of uterus.

can be well seen even now in the specimen. The uterus was accordingly removed. Pressure forceps were used to secure the broad ligaments, and Paquelin's cautery was very freely applied to the cut edges of the vaginal fornices,

* In the Table of forty consecutive vaginal hysterectomies performed for cancer (p. 224).

and neighbouring tissue from which the cervix had been detached.

The patient made a good recovery. I heard of her from time to time from Dr. Howse. She remained free from recurrence. He saw her several times in the course of her last illness (phthisis), and there was no return of cancer up to the time of her death, which occurred in February, 1900, and was due to phthisis. Dr. Howse had attended her many times in former years for lung trouble. The interval since the operation without recurrence is, therefore, in this case six years.

Sections of the growth for the microscope were prepared by the Clinical Research Association, and reported on by Mr. Targett as follows:—

"The second portion of the growth (Mrs. J.) has been examined, but the tissue is so necrotic that the sections are not worth drawing. The nature of the growth is undoubtedly squamous-celled epithelioma, but owing to decomposition the cells are much vacuolated, and the tissue has therefore an unnatural spongy appearance. It is not worth the expense of drawing."

I may add that the uterus had been five years in spirit before pieces of the growth were sent to the Clinical Research Association to be examined. The naked-eye characters of the growth are seen in Fig. 33.

CASE 19.*—Squamous-Celled Carcinoma of Cervix. Vaginal Hysterectomy. Patient remains Well Seven Years and Four Months after the Operation.

E. S., a married woman, fifty-two years old, was admitted into the London Hospital under my care on October 9th, 1894. She had had two children, the last one twenty-six years previously. She had never had any miscarriages. For the last eight months she had been a monthly nurse. She had always enjoyed good health, and there was no history of any previous illnesses. She had always had a comfortable home. She had been a

* In the Table of forty consecutive vaginal hysterectomies performed for cancer (p. 224).

Fig. A.

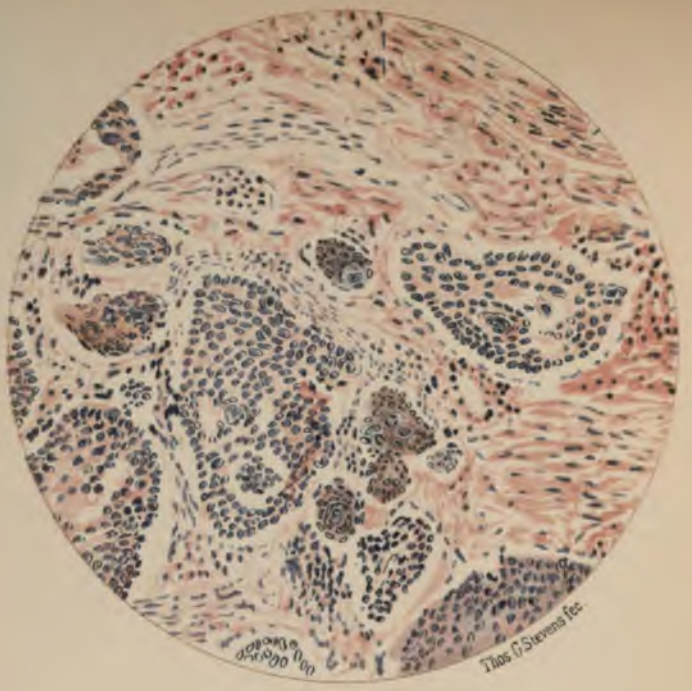
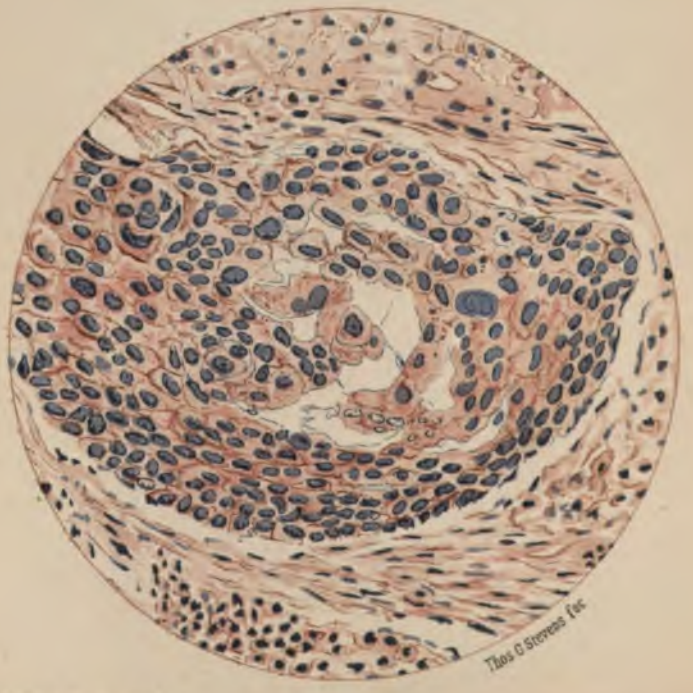


Fig. B



TWERS' "CANCER OF THE UTERUS."

Plate I.

(Case 19 *: squamous-celled carcinoma of cervix, page 128.)

Fig. A.—Low Power. It shows epithelial alveoli, of varying size and shape, which are invading the muscular substance of the uterus. The cells are arranged in a single row of columnar epithelium at the periphery, and towards the centre of the alveoli they become much more irregular and compressed. A few cell-nests are seen, and they are numerous throughout the section.

Fig. B.—High Power. In this sketch one alveolus is represented made up of typical squamous epithelial cells. To the left a whorl of cells is seen in process of formation of a cell-nest. The vessels in the adjacent uterine substance are dilated. (Signed, J. H. Targett.)

(The patient remains well seven years and four months after the operation.)

* In the Table of forty consecutive vaginal hysterectomies performed for cancer (page 224).

teetotaller all her life, and had always lived in or near the East End of London. Her two children were born within three years and a half of her marriage.

Menstrual History.—The catamenia appeared when she was thirteen years old, and she was always regular every four weeks, except when pregnant. She always suffered very much with headache at the menstrual periods. The menopause occurred five years ago—that is, in 1889. After the menopause she "saw nothing" till the end of June, 1894, when on awaking one morning she found that she had lost a considerable quantity of blood during the night. Throughout the whole of July, 1894, she continued to have a series of losses, which occurred irregularly, the discharge being blood-stained and offensive. Occasionally it ceased altogether for two or three days. In August there was much less discharge, but since then, and up to the present time, it had continued more or less. She had been able to continue at her work. She consulted Dr. Howse, then of Barking Road, now of Reading, in September, 1894, and afterwards was an in-patient at the Samaritan Hospital for four days. She said she was told there that the disease was too far advanced for any operation to be advisable. A month before her admission to the London Hospital (that is, October, 1894) she first noticed pain in the left iliac and hypogastric regions. It was of a burning character, not relieved by lying down, and not worse at night. The pain had gradually become more severe. A week before her admission she began to feel a pricking and shooting sensation in the left breast. She said she had not been getting thinner.

State on Admission.—She was fairly well nourished, but rather sallow. On October 11th, 1894, she was examined under anæsthesia. On vaginal examination there was no obvious projecting growth, the only suggestive point on gentle examination being that the external os was unusually patulous. On pressing the finger firmly into the os, a soft friable growth could be felt occupying the cervical canal. The uterus was drawn down to the vulva with volsellæ, and came down easily.

The vaginal fornices seemed to be free from any infiltration. On examining bi-manually, no extension of the disease into the broad, or utero-sacral ligaments could be made out.

Operation, October 13th, 1894.—The patient was anæsthetised with ether, and placed in the lithotomy position. Vaginal hysterectomy was then performed. Wells's forceps were used for securing the vessels. The vagina was packed with iodoform gauze, and the upper part of the gauze plug was pushed into the pouch of Douglas. The gauze and forceps were removed ninety-six hours after the operation, but no vaginal douches were given till the 24th, when the patient was ordered vaginal douches of weak iodine water twice daily. The temperature after the operation did not rise above 100·4°, and the patient made an uninterrupted recovery.

Examination of the Uterus after Removal.—The body of the uterus was not appreciably enlarged, and, so far as could be judged by the naked eye, the disease had not extended into it. An interesting point, however, was that at one part of the fundus was a white nodule of circular shape, the size of a pea, in the thickness of the uterine wall. Microscopical examination of this nodule subsequently showed that it was a small fibromyoma.

Sections of the cervix were prepared by the Clinical Research Association, and Mr. Targett reported on them as follows:—

"The substance of the cervix uteri is infiltrated with spongy processes of squamous-celled epithelioma. There are a few cell-nests, and some of the larger processes show granular degeneration of the central cells. The section is suitable for drawing." (See Plate I.)

I saw this patient last on February 27th, 1902, at the London Hospital, and examined her. The scar was quite healthy, and she was herself perfectly well. The interval since the operation in this case is therefore seven years and four months.

Case 23.*—Squamous Carcinoma of the Cervix. Large Pyometra. Vaginal Hysterectomy. Patient Well more than Seven Years afterwards.

Mrs. H., fifty-five years of age, was brought to see me by Dr. Garry Simpson, of Acton. She had had six children, the last seventeen years previously, and two miscarriages, both before the date of the last confinement. The menopause occurred at the age of fifty. Since then she had "seen nothing" till August, 1894. Since that time there had been a constant red discharge from the vagina, and for the past two or three weeks the discharge had been offensive. She felt ill and worn out at the time when the vaginal discharge commenced. For some time she had suffered from continuous pain in the lower abdomen. The date of its commencement could not be fixed. Of late she had been getting rapidly thinner.

On examination of the abdomen nothing abnormal could be felt.

On vaginal examination a large "cauliflower" growth was felt springing from the vaginal portion of the cervix. The uterus seemed freely movable, and the body of the uterus considerably larger than normal in a woman past the menopause. She went into Fitzroy House for the purpose of having the uterus removed, and during the time—a few days—that she was there before the operation the temperature at night was 100°, or thereabouts, as a rule.

Operation, June 1st, 1895.—Vaginal hysterectomy was performed in a manner similar to that already described in the preceding cases. At one stage of the operation the whole field became suddenly inundated with horribly fœtid pus. This came from the body of the uterus, and had been let out by a laceration about the junction of the cervix and body caused by traction with the volsella. The pus had previously been pent up in the body of the uterus by occlusion of the os internum, constituting the condition known as *pyometra*.

* The number refers to the Table of forty consecutive vaginal hysterectomies performed for cancer (p. 224).

In spite of the fact that the whole region of the wound was fouled with this fœtid pus, the convalescence was quite uninterrupted.

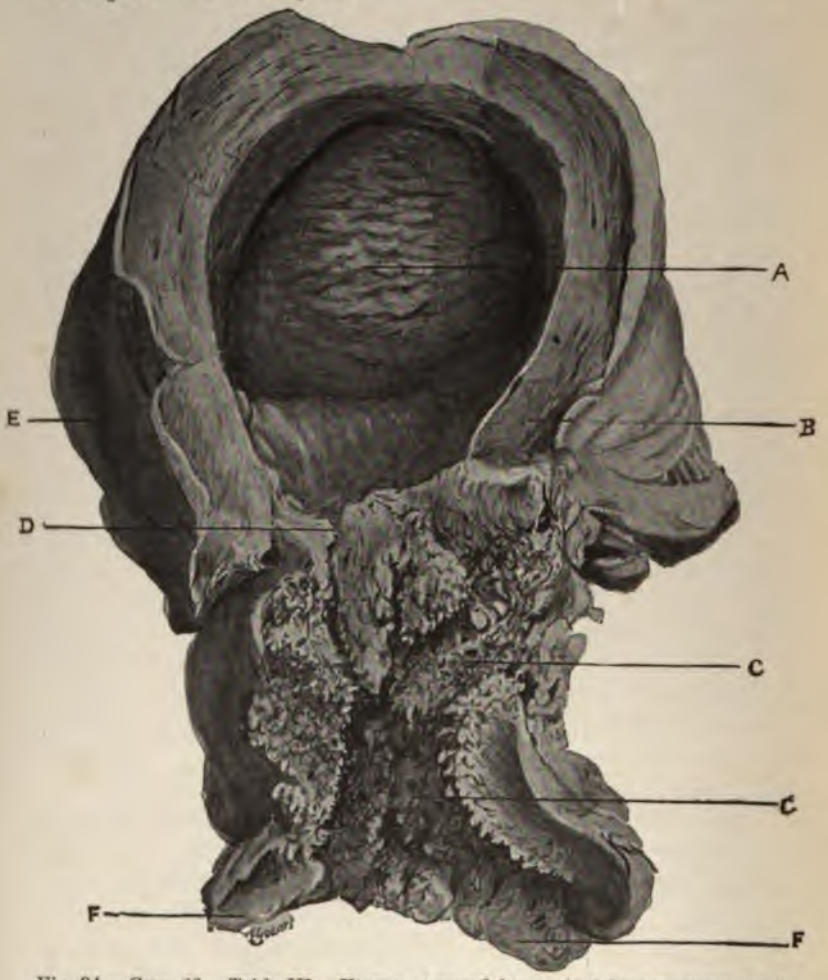


Fig. 34.—Case 23. Table IV. Uterus removed by vaginal hysterectomy, and laid open.

A. Cavity of body of uterus enormously dilated. It contained fœtid pus, which escaped during the operation.
B. Cut surface of wall of body of uterus.
C. Growth in cervix ("squamous-celled epithelioma").
D. Internal os.
E. Peritoneal surface of uterus.
F. External os

This patient writes to me every year on, or about, the anniversary of her operation. As she is now living in Australia, I do not actually get the letter till some weeks afterwards. My last letter from her is dated June 24th, 1902. In it she says: "The seventh year I have written to you, and still I live, and could I be free from serious trouble I believe I should be in fairly good health."

Fig. 35.—Shows a section of the growth from Case 23 under a low power. Solid branching columns of squamous-celled epithelioma are shown infiltrating the substance of the cervix uteri. Large cell-nests are present, as well as areas of granular degeneration in the centres of the epithelial processes (Mr. Targett's description for the Clinical Research Association).

It will be seen, therefore, that this patient has remained well for more than seven years since the operation.

As regards the specimen, Fig. 34 shows well the enormous distension of the uterine cavity by the pus above referred to. It also shows an extensive "cauliflower"-like growth of the cervix extending up the cervical canal to the internal os.

A portion of the cervix was sent to the Clinical

Research Association for microscopical examination, and Mr. Targett's report on it was as follows:—

"The growth from the cervix uteri is a squamous-celled epithelioma of the papillary type. There is a considerable amount of keratoid change in the epithelial processes" (see Fig. 36).

Fig. 36.—The same section (Case 23) under a high power. The squamous character of the epithelial cells is here represented, and in the centre keratoid and other degenerative changes have taken place. The cells have separated from the stroma by shrinkage (Mr. Targett's description for the Clinical Research Association).

Case 26.*—Squamous Carcinoma of the Cervix. Vaginal Hysterectomy. Patient quite Well nearly Six Years afterwards.

E. S., a married woman, aged thirty-five, was admitted into the London Hospital under my care on April 6th,

* The number refers to the Table of forty consecutive vaginal hysterectomies performed for cancer (p. 224).

1896. She was sent to me by Dr. Dunlop, of Purfleet. She had been married sixteen years, and had had eight children, the last eight months old. She had had one miscarriage five years previously. Menstruation had always been natural.

Fig. 37.—Represents a section from the edge of the growth in Case 26 under a low power. At the top is a portion of vaginal mucous membrane, and beneath this comes a broad strand of submucous tissue and bundles of unstriped muscle. The vessels are distended, and many foci of small round inflammatory cells are seen in this layer. At the bottom of the field are depicted the solid elongated processes of the squamous-celled epithelioma (Mr. Targett's description for the Clinical Research Association).

History of the Present Illness.—She had found herself getting thinner lately, and had had a bad appetite. About three months ago she consulted a doctor on account of a yellow vaginal discharge, which she had had for some months. During the last two months the discharge had increased in quantity, and had been sometimes blood-stained. She had sometimes felt a pain in

the lower abdomen and back, but pain did not seem to have been a marked feature in her present illness.

On April 10th she was examined under anæsthesia. On vaginal examination a "cauliflower"-like growth was seen springing from the vaginal portion of the cervix. The cervix could be easily drawn down to the outlet

Fig. 48. Represents a portion of the growth from Case 26 under a higher power. The cells are large, but their outlines are very indistinct, so that merely their large round or oval nuclei with one or two are recognisable. No cell nests are present, but a few larger cells may be seen which exhibit the so-called "cell-inclusions"—one of these is represented in the drawing. The stroma consists of a few strands of cellular tissue in which the vessels run (Mr. Targett's description for the Clinical Research Association).

of the vulva with volsellæ, and there was a good margin of apparently healthy tissue round the growth. The body of the uterus was not enlarged. The case seemed a suitable one for radical operation.

Operation, April 16th, 1910. The patient was anæsthetised with the A.C.E. mixture. Vaginal hysterectomy

was then performed, the method adopted being similar to that described in the preceding cases. The cut margin of the vaginal wall round the cervix was thoroughly seared with Paquelin's cautery.

The patient made an uninterrupted recovery, and went home on May 23rd, 1896.

A portion of the growth was sent to the Clinical Research Association for examination, and Mr. Targett's report on it was as follows:—

"This portion of the cervix uteri is thickly infiltrated with a soft squamous-celled epithelioma. There are no typical cell-nests, but a considerable number of cell-inclusions."

I have seen this patient several times since the operation. The last time I examined her was on March 7th, 1901, at the London Hospital, when there were no signs of the disease having recurred.

The interval without recurrence since the operation has been therefore nearly six years (five years and ten months exactly).

An interesting point in this case is that there is a prolapse of the fimbriated extremity of one of the Fallopian tubes, which has become fixed in the centre of the scar. It has been observed since quite an early period after the operation, and gives rise to no symptoms. Similar cases have been recorded elsewhere—for example, in Cullen's work on *Cancer of the Uterus*.

Case 33.*—Squamous Carcinoma of the Cervix. Vaginal Hysterectomy. Patient Well Four Years and a Half afterwards.

E. R., a married woman, aged thirty-eight, was admitted into the London Hospital under my care on September 4th, 1897. She had been married nineteen years, and had had six children, the last three years previously, and two miscarriages, the last nine years previously. The catamenia appeared when she was sixteen. The periods lasted four

* The number refers to the Table of forty consecutive vaginal hysterectomies performed for cancer (p. 224).

the lower abdomen and back, but pain did not seem to have been a marked feature in her present illness.

On April 10th she was examined under anæsthesia. On vaginal examination a "cauliflower"-like growth was seen springing from the vaginal portion of the cervix. The cervix could be easily drawn down to the outlet

Fig. 38.—Represents a portion of the growth from Case 26 under a higher power. The cells are large, but their outlines are very indistinct, so that merely their large round or oval nuclei with nucleoli are recognisable. No cell-nests are present, but a few larger cells may be seen which exhibit the so-called "cell-inclusions"; one of these is represented in the drawing. The stroma consists of a few strands of cellular tissue in which the vessels run (Mr. Targett's description for the Clinical Research Association).

of the vulva with volsellæ, and there was a good margin of apparently healthy tissue round the growth. The body of the uterus was not enlarged. The case seemed a suitable one for radical operation.

Operation, April 16th, 1896.—The patient was anæsthetised with the A.C.E. mixture. Vaginal hysterectomy

was then performed, the method adopted being similar to that described in the preceding cases. The cut margin of the vaginal wall round the cervix was thoroughly seared with Paquelin's cautery.

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The interval without recurrence since the operation has been therefore nearly six years (five years and ten months exactly).

An interesting point in this case is that there is a prolapse of the fimbriated extremity of one of the Fallopian tubes, which has become fixed in the centre of the scar. It has been observed since quite an early period after the operation, and gives rise to no symptoms. Similar cases have been recorded elsewhere—for example, in Cullen's work on *Cancer of the Uterus*.

Case 33.*—Squamous Carcinoma of the Cervix. Vaginal Hysterectomy. Patient Well Four Years and a Half afterwards.

E. R., a married woman, aged thirty-eight, was admitted into the London Hospital under my care on September 4th, 1897. She had been married nineteen years, and had had six children, the last three years previously, and two miscarriages, the last nine years previously. The catamenia appeared when she was sixteen. The periods lasted four

* The number refers to the Table of forty consecutive vaginal hysterectomies performed for cancer (p. 224).

days, and were preceded by severe pain for three days, relieved on the appearance of the flow. She was never regular every four weeks till the last four years, but since the last confinement she had been fairly regular till recently.

History of the Present Illness.—This began nine weeks ago, when bleeding occurred, and continued for nearly five weeks. After an interval of three or four days she had a flooding, and the loss of blood continued for eight days. She had had no pain, but had been getting thinner during the last six weeks, and her appetite during that time had been poor.

On examination, September 5th, 1897, there was seen to be some blood about the external genitals. There was slight prolapse of both vaginal walls. There was marked enlargement of the anterior lip of the cervix, which was three or four times as thick from before backwards as the posterior lip. The growth on the anterior lip was raised, and in shape like a horseshoe, with the convexity forwards.

The growth bled easily on examination, and the sound pressed against it readily penetrated its substance. The body of the uterus was of normal size, and the uterus was freely movable.

Operation, September 6th, 1897.—Vaginal hysterectomy was performed as in the preceding cases.

The patient made a good recovery, and left the Hospital on October 1st, 1897.

Sections of the growth were prepared by the Clinical Research Association, and were reported on by Mr. Targett as follows:—

"The substance of the cervix uteri is extensively invaded with thick branching processes of squamous-celled epithelioma."

I last examined this patient on March 6th, 1902, at the London Hospital. She was then quite well, and there was no sign of recurrence. Her weight on that occasion was 11 st. 6 lb.

The interval since the operation without recurrence is therefore four years and a half.

Case 36.*—Columnar-Celled Carcinoma of the Cervix. Vaginal Hysterectomy. Patient Well Four Years and Seven Months afterwards.

E. M., a married woman, aged forty-six, was admitted into the London Hospital under my care on November 27th, 1897. She was sent to me by Dr. Honnywill, of Sutton, Surrey. She had been married twenty-seven years, and had had four children, the last nineteen years previously. She had a flooding in the last week of August, 1897. The loss of blood continued for three weeks. There was then an interval of three weeks without any loss. The bleeding then began again, and since then she had been losing blood almost constantly. She thought she had been getting stouter.

On examination it was found that the anterior lip was the seat of a growth about equal in area to that of half a crown. The growth was raised, and had an overhanging margin. The whole anterior lip from before backwards measured one inch and three-eighths. The sound pressed against the growth readily penetrated its substance. Two small hard nodules were felt under the mucous membrane, one to the right of, and the other above, the growth. The uterus was freely movable, and there was no evidence of extension of the disease to the broad ligaments, or utero-sacral ligaments.

Operation, December 2nd, 1897.—Vaginal hysterectomy was performed, the method being the same as in the preceding cases. Paquelin's cautery was used to sear the cut edges of the vaginal walls. There was slight pyrexia for the first fortnight after the operation, the highest point reached being 101° on the evenings of December 6th and 7th. After the 7th the temperature was normal.

The patient did well, and went home on December 29th.

A portion of the cervix was sent to the Clinical Research Association, and Mr. Targett's report on it was as follows:—

"The growth in the cervix uteri is a malignant

* The number refers to the Table of forty consecutive vaginal hysterectomies performed for cancer (p. 224).

adenoma—that is, a columnar-celled carcinoma, in which the cells preserve their tubular arrangement. The tissues are deeply invaded, and there is much small-celled growth around the proliferating tubules."

I last examined this patient on March 22nd, 1900, at the London Hospital. There was no sign of recurrence, and she expressed herself as feeling quite well. I had a letter from Dr. Honnywill in July, 1902, saying that the patient was still quite well. The interval since the operation without recurrence is therefore four years and seven months.

Analysis of the above Results.—I have given above the particulars of eight cases of cancer of the cervix (out of the total thirty-three cases treated by the supra-vaginal amputation of the cervix) in which the disease was known not to have recurred. I have also given the particulars of six cases of cancer of the cervix out of twenty-eight treated by vaginal hysterectomy in which, similarly, the disease was known not to have recurred.

Adopting *five years* without recurrence as equivalent to a cure, my series of thirty-three supra-vaginal amputations of the cervix for cancer show six (or 18 per cent.) that have been from five to more than fifteen years without recurrence.

Adopting *four years* without recurrence as equivalent to a cure, my thirty-three cases of supra-vaginal amputation of the cervix for cancer show eight cases (or 24·8 per cent.) that have been from four to more than fifteen years without recurrence.

As regards the twenty-eight vaginal hysterectomies for cancer of the cervix, there are six, or 21·4 per cent., without recurrence from four to more than seven years after the operation. If, however, we adopt the five-year interval without recurrence only as equivalent to a cure, my twenty-eight cases show four (or 14 per cent.).

Final Result.—Up to April, 1899, I had had 33 supra-vaginal amputations of the cervix for cancer, and 28 vaginal hysterectomies for cancer of the cervix.

The intervals without recurrence may be seen at a glance as follows:—

Of the cases of cancer of the cervix treated by the supra-vaginal amputation:—

1	(No. 6)	known to be well		more than	15	years	after the	operation.
1	(No. 12)	„	„	nearly	12	„	„	„
1	(No. 16)	„	„		7	„	„	„
1	(No. 17)	„	„		12	„	„	„
1	(No. 20)	„	„		9	„	„	„
1	(No. 29)	„	„		5½	„	„	„
1	(No. 31)	„	„	nearly	4	„	„	„
1	(No. 33)	„	„		4	„	„	„
8								

And of the cases of cancer of the cervix treated by vaginal hysterectomy:—

1	(No. 15)	known to be well		6	years	after the	operation.
1	(No. 19)	„	„	7	„	„	„
1	(No. 23)	„	„	7	„	„	„
1	(No. 26)	„	„	nearly 6	„	„	„
1	(No. 33)	„	„	4½	„	„	„
1	(No. 36)	„	„	4½	„	„	„
6							

Putting these results together, there are:—

33 supra-vaginal amputations of the cervix for cancer.
28 vaginal hysterectomies for cancer of the cervix.

61 operations for cancer of the cervix.

Of these:—

8 treated by the supra-vaginal amputation of the cervix,
and 6 „ „ vaginal hysterectomy,
i.e., 14 cases (or 23 per cent) are known to have been free from recurrence from 4 to more than 15 years.

Regarding this immunity as equivalent to a cure of the disease, 14 out of 61 cases of cancer of the cervix may be considered cured—that is to say, about 23 per cent.

If we adopt the five-year interval without recurrence as equivalent to a cure, my 61 cases show 10 that have remained well from 5 to more than 15 years—that is to say, 16 per cent.

It is to be noticed that the above figures are obtained by taking the *total number of cases operated on.* Patients lost sight of are included in the total; doubtful cases are included; incomplete cases are included. But I observe that in calculating percentages of cures, some authorities (*e.g.* Winter) first deduct, from the total number operated on, the deaths, the patients lost sight of, and so on, and then calculate the percentage of cures on the remainder. This gives, of course, a higher percentage of cures than if the percentage is calculated on the total number operated on.

Thus, in Winter's paper referred to,* three hundred operations for cancer of the cervix are being dealt with: but before calculating the percentage of cures, he first deducts seventy cases for deaths from the operation, for cases lost sight of or not investigated, and for cases that died of other diseases. Thus he gets two hundred and thirty cases to deal with, and of these finds a hundred and sixty-one (or 70 per cent.) had recurrence, and sixty-nine (or 30 per cent.) were cured. If, on the other hand, we take it that the *three hundred* cases yielded sixty-nine cures, then the percentage of cures works out at only 23 per cent.

* *Zeitschrift für Geburtshülfe und Gynäkologie*, XLIII. Band, 3 Heft, 1900, p. 521.

TABLE II.—**Six Cases (out of Twenty-Eight) of Vaginal Hysterectomy for Cancer of the Cervix, which have remained Well from Four to Seven Years after the Operation.**

N.B.—The numbers refer to the consecutive series of forty vaginal hysterectomies.

No. in the consecutive series of forty vaginal hysterectomies for cancer.	Disease.	Date of operation.	Place of operation.	Interval since operation without recurrence.	Microscopic characters of growth.
15. Mrs J. ...	Cancer of cervix, large "cauliflower"	Feb. 27th, 1894	Private (with Dr. Howse, then of Barking Road, E., now of Reading)	Six years	Extract from the Clinical Research Association's Report (Mr. Targett): "The nature of the growth is undoubtedly squamous-celled epithelioma."
19. Mrs. S. ..:	Cancer of cervix	Oct. 13th, 1894	London Hospital	Seven years and four months, to February 27th, 1902, when I last examined her at the London Hospital	Extract from the Clinical Research Association's Report (Mr. Targett): "The substance of the cervix is infiltrated with branching processes of squamous-celled epithelioma"
23. Mrs. H. ...	Cancer of cervix, large "cauliflower" Pyometra	June 1st, 1895	Private (sent to me by Dr. Garry Simpson, of Acton)	Seven years (rather more than) up to June 24th, 1902, the date of her last letter to me	Extract from the Clinical Research Association's Report (Mr. Targett): "Solid branching columns of squamous-celled epithelioma are shown infiltrating the substance of the cervix uteri."
26. Mrs. S. ...	Cancer of cervix	April 16th, 1896	London Hospital (sent to me by Dr. Dunlop, of Purfleet)	Nearly six years, to March 7th, 1901, when I last examined her at the London Hospital	Extract from the Clinical Research Association's Report (Mr. Targett): "This portion of the cervix uteri is thickly infiltrated with a soft squamous-celled epithelioma."
33. Mrs. R. ...	Cancer of cervix	Sept. 6th, 1897	London Hospital	Four and half years, up to March 6th, 1902, when I last examined her at the London Hospital	Extract from the Clinical Research Association's Report (Mr. Targett): "The substance of the cervix uteri is extensively invaded with thick branching processes of squamous-celled epithelioma."
36. Mrs. E. M.	Cancer of cervix	Dec. 2nd, 1897	London Hospital	Four years and seven months, to July, 1902, when I last heard from her doctor about her	Extract from the Clinical Research Association's Report (Mr. Targett): "The growth in the cervix uteri is a malignant adenoma—that is, a columnar-celled carcinoma, in which the cells preserve their tubular arrangement."

CHAPTER V.

THE AFTER-RESULTS OF RADICAL OPERATIONS FOR CANCER OF THE CERVIX (Continued).

In the last two chapters I have dealt with those cases of cancer of the cervix treated

(*a*) By the supra-vaginal amputation, and

(*b*) By vaginal hysterectomy,

in which such long intervals are known to have elapsed without recurrence that the cases may fairly be considered to have been cured.

In this chapter I will first give particulars of the remaining cases* of cancer of the cervix treated by the supra-vaginal amputation in which either

(1) *The operation was incomplete*, or

(2) *The malignant nature of the condition present could not be absolutely proved*, or

(3) *In which recurrence was known to have taken place*, or

(4) *In which the patients were lost sight of;*

and afterwards I will give particulars of the remaining cases of vaginal hysterectomy for cancer of the cervix grouped in a similar manner.

1. Cases Treated by the Supra-Vaginal Amputation in which the Operation was Incomplete (Nos. 2, 5, 19, 25).

Case 5.†—

E. M., aged thirty-nine, was admitted into the London Hospital under my care on December 16th, 1886. She

* Except as regards Cases 1 and 2, the full notes of which have been mislaid.

† The number refers to the Table of thirty-three consecutive cases of the supra-vaginal amputation of the cervix for cancer (p. 219).

had been married eight years, and had had one child when she was fifteen years old. She was ill for three months after the confinement with "inflammation." She had never been pregnant since.

Present Illness.—For the last three months she had had a red discharge. Three months ago one of her usual menstrual periods came on, and instead of the bleeding stopping in the usual way the red discharge persisted, and had continued up to the present time. She had had pain at times in the lower part of the abdomen, and her bowels had generally been constipated.

When she was first examined, no definite cause for the bleeding was discovered, and she was taken into the Hospital for the purpose of having the cervix dilated.

Present State.—On examination of the abdomen there were old *lineæ albicantes* to be seen. Nothing abnormal was discovered.

On vaginal examination there were *caruncule myrtiformes* about the vaginal orifice. There was a little blood-stained discharge in the vagina, but the vaginal portion of the cervix looked healthy. The sound passed three inches.

On December 20th, 1886, the cervix was dilated with Hegar's dilators. When the finger was passed into the cervix, a soft, friable, evidently malignant growth was felt in the cervical canal well above the level of the external os.

On January 7th, 1887, the supra-vaginal amputation of the cervix was performed. The piece removed measured an inch and a quarter in length. The patient had an attack of pelvic peritonitis of moderate severity subsequent to the operation, which caused the uterus to be almost fixed.

I was doubtful at the time of the operation whether the line of incision at the level of the internal os, by which the cervix was removed, was sufficiently above the upper limit of the growth to make the operation a "complete" one.

On February 23rd, 1888, the patient was readmitted into the Hospital. She said that she had been losing

blood practically ever since leaving the Hospital a year ago: she had not had much pain till the last three weeks. She had a slightly cachectic appearance.

On examination, there was at the top of the vagina an irregular cavity admitting the finger half an inch in the direction of the uterus. The uterus was not quite fixed, but much less movable than normal. The cavity was evidently a malignant ulcer, and it was evident that the disease had extended laterally into the parametric tissues.

There are some points of interest in this case—in the first place, the situation of the malignant growth in the cervical canal well above the level of the external os; also the fact that on examination with the finger and speculum not the slightest evidence of any growth was to be found. The nature of the case did not become evident until the cervix had been dilated so that the finger could be passed into the cervical canal.

I may call attention to the fact that this case was only the fifth one in which I performed the supra-vaginal amputation of the cervix for cancer. At the time of this operation (January, 1887) I regarded that operation as essentially the operation of election in cases of cancer of the cervix suitable for radical operation. I cannot avoid the conclusion that if I had removed the whole uterus, there would have been a very good chance in this particular case of either permanent immunity, or, at all events, of a prolonged interval of relief.

CASE 19.*—

M. A. K., aged thirty-one, was admitted into the London Hospital under my care on February 10th, 1892. She had been married nine years, and had had eight children, the last fourteen months previously. She had had one miscarriage when four months pregnant, two months before admission. She had had severe floodings afterwards, and had been very weak ever since.

Present Illness.—For the last eight months she had had a constant discharge from the vagina. It had always

* The number refers to the Table of thirty-three consecutive cases of the supra-vaginal amputation of the cervix for cancer (p. 219).

been very offensive, and, since the miscarriage, had been increasing in quantity. The discharge had been watery, and had never been red. Ever since the discharge was noticed she had been growing weaker, and losing flesh. She had had no trouble in connection with micturition or defæcation.

February 11th, Examination under Anæsthesia.—There was a "cauliflower" mass growing from the anterior lip of the vaginal portion; the mass was the size of a large egg. Its relation to the cervix was such as to produce an inverted mushroom shape. The posterior lip of the cervix appeared healthy. The uterus was drawn down quite easily to the vulva with a volsella on the posterior lip.

Operation, February 18th, 1892.—The supra-vaginal amputation was performed. When the cervix had been freed as high as the internal os, it was cut off with the cautery. In the course of the operation I found that the growth had spread more widely than was judged to be the case at the first examination; and although I removed it as freely as possible, my impression was that some infiltrated tissue had probably been left behind. Douglas's pouch was somewhat freely opened during the operation. Several pairs of Wells's forceps were left on bleeding points; these were removed forty-eight hours later.

The patient did very well after the operation, and during the time she was in the Hospital she gained strength rapidly, and improved very much in appearance. She left the Hospital on March 13th, 1892.

After-History.—Unfortunately I have been unable either to see her, or to get any information about her since her discharge.

CASE 25.*—

In this case the uterus was considerably enlarged, apparently owing to the presence of fibroid tumours in the body of it. There was a malignant growth of the cervix.

* The number refers to the Table of thirty-three consecutive cases of the supra-vaginal amputation of the cervix for cancer (p. 219).

I performed the supra-vaginal amputation of the cervix on February 20th, 1894, expecting that this operation would enable me to remove the whole of the malignant growth; but, unfortunately, when the cervix had been removed at the level of the internal os, it was evident, after cutting open the specimen, that some portion of the malignant growth had been left behind above the cervix. It would have been impossible to have removed the body of the uterus by vaginal hysterectomy, and therefore I was obliged to be content with doing nothing more on that occasion.

Subsequently I strongly advised the patient to have the remainder of the uterus removed by abdominal section; but she refused to have this done. The operation was therefore an incomplete one.

The case was worth attention as an example of the simultaneous occurrence of cancer of the cervix and fibroid tumours of the uterus in the same patient—a somewhat rare combination. At the present time (were such a case to come under my notice) I should, of course, recommend the removal of the whole uterus by abdominal section in the first instance—that is to say, supposing the case to be one where the enlargement caused by the fibroids was so great as to render vaginal hysterectomy out of the question. Fig. 19, p. 54, shows a uterus with every variety of fibroid combined with cancer of the cervix, which I removed by vaginal hysterectomy; but in this case the enlargement of the uterus caused by the fibroids was only moderate.

CASES IN WHICH NO DEFINITE PROOF OF CANCER WAS OBTAINED ON MICROSCOPICAL EXAMINATION (Nos. 21, 23, 24, 28).

CASE 21.*—

Mrs. O., aged sixty, was brought to me by Dr. H. H. Brown, of Leytonstone, on February 3rd, 1893. She had

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

been married many years, and had had five children (the last twenty-six years previously), but no miscarriages.

According to the history, a pear-shaped polypus had been removed fifteen years ago, and she formerly wore a ring pessary. Her complaint, when I saw her, was that for about two months there had been a red discharge from the vagina, and a good deal of bearing-down pain. She thought she was, perhaps, slightly thinner also.

The catamenia ceased at the age of fifty. About that time she had very severe losses, but from that time up to two months ago she had "seen nothing." As already mentioned, she had had a red discharge two months ago, and also three weeks ago she had had some yellow discharge, followed a week later by bleeding, which lasted ten days. She had also had some pain in the left iliac region for about a week. The patient had an umbilical hernia.

On vaginal examination a circumscribed nodule was found on the posterior lip of the vaginal portion, and there were small irregular projections, apparently due to a growth a little way up the cervical canal, on the posterior wall. The external os admitted the finger for a short distance. The anterior lip of the cervix was healthy. The uterus was retroverted, and freely movable.

On February 8th, 1893, the supra-vaginal amputation of the cervix was performed. Douglas's pouch was not opened. Paquelin's cautery was used to cut off the cervix from the rest of the uterus, when it had been freed as high as the internal os.

The patient made a good recovery.

CASE 23.*—

E. J. H., aged thirty-two, was admitted into the London Hospital under my care on January 8th, 1894. She had been married fourteen years, and had been pregnant three times. In the first pregnancy labour came on at the seventh month; the child lived fourteen days. In the

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second pregnancy there was premature labour at eight months; the child lived five hours only. In the third pregnancy the patient again did not go to full time, but she could not recollect exactly when labour came on. The child lived twenty-four hours. She had not been pregnant since. The last confinement was eleven years ago.

Present Illness.—Three years ago the patient noticed sharp pain and throbbing in the left side of the hypogastric region, which had gone on ever since. She was then vomiting blood. Two years ago she consulted a doctor about this. He diagnosed gastric ulcer, for which he treated her. She was in St. Thomas's Hospital about Whitsuntide, 1893, where she was treated for gastric ulcer, but said she was not much relieved. For the last three years there had been a sanguineous discharge from the vagina, which became very abundant about a year ago, and lately the patient had noticed that the discharge had become offensive. She said that she had been losing flesh for the last eighteen months. The patient said that the menstrual periods had been regular throughout her illness.

State on Admission.—She was very anæmic and wasted.

On January 11th she was examined under anæsthesia. The uterus was easily drawn down to the outlet of the vulva. There was a conical ulcer of the vaginal portion. The walls of the ulcer were irregular, and when mopped free from blood the tissue forming the wall of the ulcer was seen to be yellowish-white in places; it broke down easily on pressure. On the posterior lip of the cervix there was a raised oval patch the size of a shilling, with an overhanging margin, and the whole surface bled rather readily on touching it.

Operation, January 18th.—The supra-vaginal amputation of the cervix was performed. Douglas's pouch was not opened. Several pairs of small Wells's forceps were left on the bleeding vessels. The cervix was cut off from the body of the uterus with the cautery at the level of the internal os. On slitting up the cervix there seemed to be about three-sixteenths of an inch of healthy tissue between the line of section and the upper limit of the disease. The

patient had a good deal of pain and moderate fever for a week after the operation, but she ultimately did quite well, and left the Hospital on February 24th, 1894.

An examination was made before she left the Hospital. There was a granulating healthy wound at the top of the vagina about the size of a shilling.

I have seen this patient several times since she left the Hospital, and have examined her.

After-History.—The last occasion on which I examined her was at the London Hospital in March, 1896, and she was then quite well.

On the clinical evidence I have not the slightest doubt that this patient had a large malignant ulcer of the cervix. Unfortunately the sections of the cervix under the microscope are not quite satisfactory in proving the presence of malignant disease.

CASE 24.*—

In this case the supra-vaginal amputation of the cervix was performed on February 6th, 1894, for a condition of the cervix which clinically was strongly suggestive of the presence of a malignant growth; but as the subsequent examination of the specimen was not conclusive in this respect, I think it unnecessary to give the details of the history.

CASE 28.*—

Mrs. B., aged fifty-four, came to see me on September 29th, 1896. She had been married many years, and had had four children, the last twenty years previously, and one miscarriage some time before the last confinement.

History of the Present Illness.—About two months ago some vaginal bleeding occurred. Since that time there had been a muco-purulent discharge. About the time she had the bleeding a dragging pain, felt in both iliac regions and down the legs, came on. When standing, she thought that "something came down." She had also had pain in

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

the lower part of the back, chiefly on the right side, for some months.

Examination.—On examination there was a moderate prolapse of the anterior vaginal wall, and a good deal of thin muco-purulent discharge in the vagina. On the right side of the cervix was a hard, sharply defined, depressed area the size of a threepenny-piece; this bled readily on gentle examination. The uterus was freely movable.

I thought that in all probability it was an example of early malignant disease of the cervix, and advised that the cervix should be removed.

Operation, October 8th, 1896.—The supra-vaginal amputation was performed in the London Hospital on this date. Forceps were used to secure the vessels.

The patient made an uninterrupted recovery.

RECURRENCE WAS KNOWN TO HAVE OCCURRED WITHIN THE FIRST YEAR IN Nos. 1, 4, 7, 8, 11, 13, 27, 30.

CASE 1.—

The full notes of No. 1 have been mislaid, but I know the disease recurred within a year from the date of the operation.

CASE 4.*—

E. L., aged thirty-three, was admitted into the London Hospital under my care on July 19th, 1886. She had had six children, the last about four years ago, and one miscarriage four months ago, when she was six months pregnant. She complained of having been losing blood ever since the miscarriage; the loss had never stopped more than a day or two during this time.

State on Admission, July 19th, 1886.—In the situation of the external os is a cavity admitting the finger about threequarters of an inch; the walls of the cavity are formed by hard tissue. Examination causes a little bleeding, and the finger on withdrawal has an offensive odour. The uterus is freely movable.

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

With the speculum it is seen that there is a conical malignant ulcer of the cervix, and that most of the excavation of the cervical tissue has taken place in the anterior lip of the cervix, but that there is superficial ulceration of the posterior lip also.

Operation on July 20th, 1886.—The supra-vaginal amputation of the cervix was performed. At first it seemed as if the disease had extended so close to the bladder that it would be impossible to separate the bladder from the cervix. I therefore dilated the urethra with Hegar's dilators, and held the wall of the bladder between my left forefinger and thumb, while the cervix was drawn back by an assistant. In this way the bladder was dissected off the anterior aspect of the cervix. No permanent incontinence of urine resulted. In clearing the peritoneum from the posterior aspect of the cervix, Douglas's pouch was opened to a slight extent.

The operation was performed at 10 a.m. Soon after its completion the patient had a rigor. At 4 p.m. the temperature rose to 103° (the pulse, however, being only 76), falling to 98° by eight o'clock the next morning. On the evening of July 21st the temperature was 100·2°; after that it remained normal.

The patient left the hospital on August 17th. Her weight then was 11 st. 9½ lb. On November 18th her weight was 12 st. 2 lb. On December 2nd her weight was 12 st. ½ lb.

The patient was seen in January and March, 1887. The scar was perfectly healthy, and her general health good.

She next came on July 16th, 1887, and complained that she was suffering from great pain in the right hip, and down the right leg. This had come on quite recently, and was preceded by numbness of the leg.

On examination the scar was found to be perfectly healthy, and the remaining part of the uterus freely movable. In the right posterior quarter of the pelvis, however, a lump was felt the size of a cherry, hard and fixed; there was an inch or more of apparently healthy tissue between this lump and the uterus.

Readmitted to the Hospital, September 11th, 1887.—She had continued to suffer severe pain in the right hip and leg. For some weeks past the right lower extremity had been swollen. On admission it was seen to be considerably larger than the left. There was tenderness in the region of Scarpa's triangle. In fact, there was a condition, practically identical with phlegmasia dolens, of the right lower limb. The scar left by the operation was still quite healthy, and the uterus freely movable. The lump in the right posterior quarter of the pelvis was, however, now the size of a walnut; but there was an interval of apparently healthy tissue between it and the uterus.

From this time her condition gradually became worse, and she was never free from pain except when under the influence of morphia. She often required as many as five injections, of one-third of a grain each, in the twenty-four hours.

On October 18th she weighed only 8 st. 13 lb.

November 7th, 1887.—A little hard nodule was noticed in the skin on the right side below the breast, freely movable over the subcutaneous structures, but adherent to the skin, which was red over it.

On November 14th she weighed 8 st. 5½ lb.

On December 20th left hemiplegia and facial paralysis were observed. Sensation apparently normal.

She died on December 29th, 1887.

There was unfortunately no post-mortem examination.

There was never any recurrence in the operation scar, nor any lump perceptible on simple abdominal palpation alone: but the lump in the right side of the pelvis became somewhat larger before her death. She had been troubled with occasional vomiting since her readmission.

CASE 7.*—

S. G., aged fifty-one, was admitted into the London Hospital under my care on March 30th, 1887. She had been married thirty years, and had had seven children and two miscarriages.

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

Present Illness.—About two years ago the patient was troubled with severe bearing-down pain—worse when the bowels acted. At this time she lost a good deal of blood from the vagina in small repeated losses. She attributed all these troubles to the "change." The catamenia ceased two years ago, and she "saw nothing" from that time until about ten months ago, when a red discharge appeared, from which she had not been free since. She had also had hæmorrhage coming on when the bowels acted, or when she was making any slight exertion. About a month ago she had had a flooding, losing half a pint of blood; she fainted away on this occasion. During the last nine or ten months she had had almost constant bearing-down pain, gnawing and worse at night. Just recently the pain had not been so bad as previously. There had been no trouble connected with micturition. The bowels had been constipated, and bleeding from the vagina usually occurred when the bowels acted. The patient thought she had lost flesh considerably during the month before admission.

There was no history of malignant disease in the patient's family.

March 31st, 1887.—On examination there was seen a slight prolapse of the anterior vaginal wall, and a nodular growth was felt on the anterior lip of the vaginal portion. The whole of the anterior lip had a mushroom-like shape. Gentle examination caused a little bleeding. The growth on the anterior lip ended peripherally by an overhanging edge. The uterus was freely movable. Urine normal.

Operation, April 5th, 1887.—The supra-vaginal amputation of the cervix was performed. There was some difficulty in separating the cervix from the bladder, but I was inclined to think that all the diseased tissue was removed. Wells's forceps were used to secure the vessels. These were removed next day.

After-History.—This patient came up to the Hospital on September 24th, 1887. She then complained of great pain over the lower part of the abdomen and back, more especially in the right ovarian region. She had had slight pain for some months, but it had become more severe the

last fortnight. Since the operation she had seen a little yellow or white vaginal discharge, but had not seen any red discharge till a week ago.

On examination a large, ragged, excavated ulcer, evidently due to recurrence in the scar, was found at the top of the vagina; it involved the uterine stump, and a considerable portion of the vaginal wall around it. The uterus was fixed.

CASE 8.*—

A. I., a monthly nurse, aged fifty-two, was admitted into the London Hospital under my care on September 10th, 1887. She had been married thirty years, and was now a widow. She had had eleven children, and two miscarriages.

Present Illness.—She had always enjoyed good health. She ceased menstruating six years ago, having always previously been regular. She had had no pain, but for the last four months she had had a blood-stained vaginal discharge. For the last two years she thought she had been getting thinner.

On vaginal examination the external os was found to admit the finger for about one-sixth of an inch. On the posterior lip was an irregular, hard patch. Examination caused slight bleeding. The patch described did not apparently extend beyond the limits of the cervix; it was obviously a malignant growth of the vaginal portion.

Operation, September 15th, 1887.—The supra-vaginal amputation of the cervix was performed. One silver suture was used anteriorly and one posteriorly to approximate the cut edge of the vaginal wall to the neighbourhood of the uterine mucous membrane. Four pairs of Wells's forceps were left on.

The patient did quite well after the operation, and was discharged on October 1st.

She came up on October 17th to see me at the Hospital, and said she had had no discharge of any kind since going home.

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

On examination a silk ligature was removed, and it was seen that the wound at the top of the vagina was practically healed.

January 30th, 1889.—She came to see me on this date, and said that seven months ago—that is, about the end of June, 1888—she began to have pain in the back and "stomach," and a watery discharge tinged with blood. She also complained of "dry retching," especially at night. The pain had been worse when the bowels acted.

On February 4th, 1889, I examined her. There was a conical ulcer at the top of the vagina, the margin of which was hard and nodular, and situated on the vaginal walls.

In this case I adopted palliative treatment for the condition described—that is to say, I cauterised it freely with Paquelin's cautery, and packed the cavity with chloride of zinc plugs. The benefit resulting from this treatment, however, was of a very temporary character.

On comparison of the dates it will be seen that this patient remained well about nine months only after the operation, and that recurrence then took place in the stump.

CASE 11.*—

Mrs. B., a married lady, aged thirty-nine, came to see me on April 6th, 1888. She had been married for many years, and had had two children by her first husband, the last about eighteen or twenty years ago. She said that for the last twelve months she had been losing excessively at her periods, and these occurred too often. She said that she had had a discharge between the periods, but that it had not been stained with blood. She also complained of a certain amount of pain in the abdomen, which appeared to be probably due to dyspepsia. She had not been getting thinner. About a fortnight previous to my seeing her a portion of a growth had been removed from the vaginal portion of the cervix

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with the *écraseur* by another physician; he had no doubt as to the malignant nature of the growth removed.

A careful examination was made under anæsthesia. The uterus was found to be freely movable, and could be easily drawn down to the outlet of the vulva. The anterior lip of the cervix looked as if pared off to about the level to which the bladder extends down on the cervix. The cervix had a very suspicious appearance, bleeding readily on touching it.

Operation, April 17th, 1888.—The supra-vaginal amputation was performed. Before commencing the operation a ring of red, but apparently sound, tissue was noticed on the vaginal wall round the cervix. It appeared to be due to cicatrisation of the wound caused by the use of the *écraseur*. Except as regards this ring of tissue, I felt satisfied that the operation was "complete." The upper section of the cervix was rather more than a quarter of an inch above the apparent highest point of the growth in the cervical canal. Several pairs of Wells's forceps were left on.

The patient did well after the operation.

After-History.—For about three or four months the patient was much better. She menstruated regularly, but had no inter-menstrual discharge. About the beginning of July, however, she complained that the lower part of the back seemed stiff, and she had pains as if in the wound —sometimes only once a day, sometimes oftener. These pains were worse after exertion. She also about this time began to have a red discharge almost constantly. By the middle of October there was a well-marked malignant ulcer in the situation of the stump at the top of the vagina. This was freely cauterised with Paquelin's cautery, but the resulting improvement was only very temporary.

CASE 13.*—

Mrs. C., aged thirty-two, was seen by me on September 19th, 1888. She had been married fifteen years, and

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

had had six children, the last nine weeks previously. The confinement was said to have been normal. She said that there had been no bleeding during pregnancy, but that she had had a good deal of white discharge, and sometimes a brown discharge. She was supposed to have a growth at the neck of the womb, which had got larger since the confinement. It was with reference to this growth that I was asked to see her.

For the first month after the confinement she appeared to do well, the blood lost during that time apparently not being more than might be explained by the puerperal state; but within the last five weeks she had lost a good deal of blood every few days. Some of these attacks were described as "floodings." She had had no pain.

The patient was decidedly anæmic.

Nothing abnormal was felt on examining the abdomen, but on vaginal examination there was found a "cauliflower" growth of the inverted mushroom type chiefly affecting the anterior lip. The size of the growth indicated that the disease had been present for a considerable time. The uterus appeared to be freely movable.

Operation, September 22nd, 1888.—The supra-vaginal amputation of the cervix was performed. During the course of the operation it was evident that the disease had extended very close to the bladder, but still my impression was that the whole of the apparently diseased tissue had been removed. Pressure forceps were used to secure the vessels. The forceps were removed on September 24th, and, as regards the operation, the patient made an uneventful recovery.

December 18th.—The patient came to see me, and said she had been "fairly well" since the operation. She had "come on poorly" very slightly about five weeks after the operation. She "came on again" three weeks ago, and it lasted four days. She had had a white discharge almost constantly for the last few weeks, and yesterday there was a little blood in it. She said she had had pains in the knees and thigh-bones, and in the back at times, which she ascribed to rheumatism, and she thought that she had got thinner lately.

On vaginal examination a patch the size of a florin was seen in the position of the stump. It was dark red in colour, and bled on the slightest touch. Recurrence had evidently taken place.

The influence of pregnancy on co-existing cancer of the cervix in this case (and in others) has appeared to me to be very unfavourable; that is to say, it appears to favour the early diffusion of the malignant infiltration into the surrounding tissues, and to, therefore, largely reduce the chances of any prolonged immunity being obtained by operation.

CASE 27.*—

E. F., aged twenty-five, a woman of fair complexion and light-coloured hair, was admitted into the London Hospital under my care on March 13th, 1896.

Previous History.—She had been married six years, but had had no children. She had had one miscarriage five years ago. She had had a cough for several years, with expectoration of a mucous, or muco-purulent character. She had had pain between the shoulders when she coughed; also she had had pneumonia and influenza about three years ago, and had had bronchitis twice since then.

History of the Present Illness.—Menstruation had been quite regular up to December, 1895, when she had a fall just before her period. This had been followed a week after by a flooding. She had had a white offensive discharge between the periods for the last two years. For the last three months the vaginal discharge had been mixed with blood.

Family History.—Her father is alive. Her mother died at the age of forty-seven from "cancer of the womb." She has one sister and two brothers, alive and healthy.

Examination of the Abdomen.—Nothing abnormal was felt on examining the abdomen.

On vaginal examination there was some blood about the external parts. A large "cauliflower" growth was seen through the speculum, springing from the whole

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

of the vaginal portion. There was a very offensive discharge in the vagina. The growth bled readily on touching it, and broke down easily on pressure. She was examined under anæsthesia. The cervix was seized with volsellæ, and came down easily to the orifice of the vulva. Bi-manually there was no evidence of extension in any direction beyond the uterus. The body of the uterus was of the ordinary size.

Operation, April 9th, 1896.—The uterus was drawn down by several volsellæ fixed to the vaginal portion. The anterior fornix was incised first, about half an inch from the growth, and the bladder separated as high as the internal os. The posterior and lateral fornices were then incised. The cut edge of the vaginal wall was cauterised with Paquelin's cautery as the incisions were made. Wells's forceps were used to secure the vessels, and the cervix was cut off at the level of the internal os with Paquelin's cautery. Douglas's pouch was opened with the cautery. An iodoform gauze plug was inserted into the vagina. The forceps were taken off on April 12th. The temperature on that day rose to 103°.

On April 15th the patient was much better. The temperature had gone down, and the discharge was less offensive.

On April 27th she was examined, and a granulating cavity was seen at the top of the vagina, somewhat triangular and not deep, admitting the tip of the finger only about half an inch.

The patient went home on May 8th, 1896.

After-History.—Unfortunately recurrence took place in the scar within three months of the operation.

CASE 30.*—

M. H., aged forty, was admitted into the London Hospital under my care on October 22nd, 1896.

Family History.—Her father died at the age of forty of "asthma." Her mother (aged sixty-two) is living, strong and well. Three brothers died in infancy; three

* The number refers to the Table of thirty-three consecutive cases of supravaginal amputation of the cervix for cancer (p. 219).

sisters are living, aged twenty-six, thirty-two, and thirty-eight, in good health. Two sisters died young.

Menstrual History.—The catamenia began at the age of sixteen, and have always been regular.

Previous History.—She had been married eighteen years, and had had twelve children, the last fifteen months ago, and four miscarriages, the last (twins at four months) four months ago.

History of the Present Illness.—She had been quite well till four months ago, when the last miscarriage occurred. She was not attended by a doctor, and stayed in bed three weeks. She had not felt well since then. She had had a vaginal discharge since the miscarriage, usually every day. Sometimes the discharge was white, sometimes yellow, and sometimes blood-stained. During the three weeks prior to admission there was blood in the discharge every day. She also described the discharge as sometimes being "like dirty water." Her periods, which used to be quite regular every four weeks, had during the last four months come on every fortnight. The patient said that she had lost flesh considerably since the last miscarriage. She also complained on admission of a pain in the left iliac region, of a dragging, intermittent character.

Present State, October 22nd, 1896.—On examination of the abdomen it was found that she had a very movable kidney on the right side.

On vaginal examination there was no blood about the external parts. There was a "cauliflower" growth springing from the vaginal portion of the cervix, chiefly from the anterior lip. The posterior lip of the cervix seemed fairly healthy, especially towards the right side. The uterus was freely movable, and the body of it of the ordinary size. I felt some doubt as the result of the examination as to whether the malignant growth had spread to the tissue beyond the cervix anteriorly and to the left.

October 28th, 1896, *Examination under Anæsthesia.*—The anterior lip of the cervix was seized with a volsella, and came down easily to the outlet of the vulva.

There was a growth of the "cauliflower" type, having an area roughly equal to that of a five-shilling piece on the anterior lip. It had a distinctly overhanging margin, and seemed to be just beginning to involve the anterior vaginal wall. The growth extended round on the left side to the posterior lip.

Operation, November 5th, 1896. — The supra-vaginal amputation of the cervix was performed in the usual way. It was found extremely difficult to separate the bladder from the anterior aspect of the supra-vaginal cervix. The sound was passed into the bladder several times during this stage of the operation, and during this proceeding the point of the sound could be distinctly seen through the thin vesical mucous membrane. Douglas's pouch was opened. The lateral attachments of the cervix were secured with Wells's forceps, and the cervix was cut off from the rest of the uterus at the level of the internal os with Paquelin's cautery. The cautery had been used several times to the edges of the vaginal walls, as has been my usual custom. The pressure forceps were removed on November 9th. She made a good recovery from the operation, and went home on December 13th.

After-History.—The malignant growth recurred early in 1897.

Recurrence within the Second Year (No. 18).

The following case was one of supra-vaginal amputation for malignant adenoma (columnar-celled carcinoma) of the cervix. The clinical evidence certainly led me to diagnose cancer of the cervix, and I performed a supra-vaginal amputation. On microscopical examination of the growth soon afterwards, however, I was not myself quite satisfied that the growth was malignant. Large cavities were seen in the section lined by a single layer only of glandular epithelium. The after-history of the patient, however, showed conclusively that the growth was really malignant. Mr. Targett, to whom I recently submitted the sections, had no doubt the growth was malignant, before I told him what the after-history had been.

CASE 18.*—

S. S., aged thirty-eight, was admitted into the London Hospital under my care on April 29th, 1891. She had been married eighteen years, and had had three children, the last twelve years previously. Her labours had been prolonged, but not instrumental.

History of the Present Illness.—For the last six weeks she had had constant bleeding, especially on sitting up. She had had no pain, but complained of great weakness in the back. At times she had a cutting pain on passing water; she had often to get up at night to pass water. This had been more noticed recently. She had lately lost flesh considerably. She had not been troubled with pruritus.

Menstrual History.—The catamenia appeared when she was thirteen, and she was regular every four weeks up to the age of sixteen. The periods then ceased for twelve months, and reappeared when she was seventeen. Since that time the periods had, as a rule, occurred regularly every four weeks without pain, and the quantity lost had not been excessive.

There was no family history of cancer.

On April 30th she was examined under an anæsthetic. The anterior lip of the cervix was seized with a volsella, and it was found that the uterus could be drawn down easily to the outlet. There was a small "cauliflower" growth attached to the posterior lip of the cervix just within the os; the growth broke down on touching it. The anterior lip of the cervix had a slightly yellow tinge, but did not break down on pressure. The body of the uterus was of the normal size.

On May 7th, 1891, the supra-vaginal amputation of the cervix was performed. After removing the cervix at the level of the internal os, a portion of the anterior vaginal wall (about an inch and a quarter transversely and a quarter of an inch broad) was felt to be hard and apparently infiltrated by extension of the growth. It was therefore pinched up, and completely cut out with Paquelin's cautery. The section of the cervix from the

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

rest of the uterus was also made with Paquelin's cautery. Wells's forceps were used to secure the vessels; these were removed on May 9th.

On June 5th an examination was made. It was found that there was a healthy granulating wound at the top of the vagina. The patient went home the same day.

On July 30th the patient came up to the Hospital, and was examined. The scar was healthy. There was merely a point of granulation the size of a pin's head at the

Fig. 39.—Drawing of a section of the growth in Case 18.*

"The growth is a columnar-celled carcinoma, and the drawing represents a series of irregular tubules cut in various directions, which permeate the soft nucleated cellular stroma. The tubules are lined with columnar epithelium, and some of them form small cysts filled with processes and foldings of their epithelial lining" (Mr. Targett's description).

entrance to the cavity of the uterus. Her weight on that occasion was 8 st. 4 lb., a gain of 7½ lb. since the operation.

After-History.—The patient remained well and free

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

from recurrence for more than a year. Then she began to have bleeding, and came up to the Hospital.

The last time I saw her there was a large, evidently malignant, ulcer at the top of the vagina.

Recurrence within the Third Year (No. 9).

Case 9.*—

Miss E., a single lady, aged sixty-five, was seen by me in consultation with the late Mr. Henry Bullock, of Isleworth, on November 10th, 1887. She said that for the last four years she had had hæmorrhage from the vagina more or less constantly. The menopause occurred at the age of forty-eight, and from that time she "saw nothing" till she was sixty-one. Two years previously she was seen by the late Dr. Wiltshire, who was said to have removed what he was positive was an innocent growth from the interior of the uterus: more probably from the inside of the cervix. Some pain in the abdomen was felt after this operation. She had also had pain in the right iliac region at times since, but it had not been severe. The vaginal discharge for the last month or so had occasionally been offensive. She said she felt strong, and did not think she had been losing flesh. Her bowels were regular. Micturition was not painful, but there was some undue frequency at times.

On abdominal examination nothing abnormal could be felt.

On vaginal examination there was some blood about the external parts. There was a convex tumour the size of a walnut occupying the os uteri and projecting through it: it was soft and friable, and had an indistinct pedicle. Under ether this was scraped away thoroughly with a sharp spoon, a tough tag still remaining in the situation of the pedicle. The attachment seemed to be on the left side of the cervix within the cervical canal. The uterus was freely movable, and there was no evidence of any induration on the sides of the vaginal walls, which were healthy.

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

On December 6th, 1887, the supra-vaginal amputation of the cervix was performed, and the patient did quite well afterwards. Sections of the mass removed by scraping were prepared and examined under the microscope; they were definitely carcinomatous.

After-History.—She remained well for more than two years, but about six months later recurrence took place in the scar.

SEVEN CASES LOST SIGHT OF (Nos. 3, 10, 14, 15, 22, 26, 32).

CASE 3.*—

E. H., aged forty-one, had been married twice. She had had two children by her first husband, but no children by the second husband, to whom she had been married fifteen years. She had never had any miscarriages. She was admitted into the London Hospital on February 6th, 1886, complaining chiefly of a thick yellow discharge, which she had had for four or five years; during the last six months, however, this discharge had been coloured red at times when she was not menstruating.

On examination a soft papillary growth was seen growing from the posterior lip of the vaginal portion of the cervix; the area occupied by the growth was about the size of a sixpence. The growth bled readily on touching it. The sound passed two inches and three-quarters.

On February 12th, 1886, supra-vaginal amputation of the cervix was performed. The piece removed was an inch and a quarter long.

The patient recovered without any bad symptom, and went home.

Subsequently she came up regularly to the Hospital, and nothing suspicious was seen till April 25th, 1887. On examination then I found a red patch on the scar, about an eighth of an inch wide, immediately to the left of the entrance to the uterine cavity, which had not been there previously. This was watched carefully, and

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

gradually increased in size, and on October 8th, 1887, the patient was readmitted.

At this time there was a papillary growth over an area the size of a florin. The growth involved the anterior part of the uterine stump and adjacent anterior vaginal wall: the edge of the growth was overhanging. Gentle examination caused bleeding, and brought away fragments of the growth the size of shot.

On October 13th, 1887, a careful examination was made under anæsthesia. It was found to be impossible to cut out the recurrent patch, as most of it was on the anterior vaginal wall, and cutting it out completely would have involved cutting out the base of the bladder. The whole area occupied by the growth, together with a margin of healthy tissue round it, was therefore very freely cauterised with Paquelin's cautery.

On January 24th, 1888, she came up to see me. She said she had been regular since leaving the Hospital, and had had no inter-menstrual discharge of any kind.

On examination I found that the ulcer caused by the cautery had completely healed, and that there was no trace of the disease either there or elsewhere. On that occasion her weight was 9 st. 5 lb.

It will be seen that the case was one of "cauliflower" growth, apparently in a very early stage; and in spite of that, recurrence took place in the stump about fourteen months after the operation. As a rule, when recurrence takes place little improvement can be expected from any subsequent treatment of an operative nature. This case is, however, remarkable in that respect, because thoroughly cauterising the recurrent patch produced a healthy surface, which healed over soundly, a thing I have never seen in any other case.

When last seen, therefore, this patient was free from symptoms; nor on examination was there any evidence of the original disease.

Unfortunately since that time I have never been able to hear anything of her. The interval during which the patient was known to have benefited was therefore in this case just two years.

CASE 10.*—

L. E. M., aged thirty-nine, was admitted into the London Hospital under my care on December 21st, 1887. She had been married twelve years, and had had seven children, and one miscarriage at six months; the miscarriage occurred nine months before admission. A month afterwards menstruation appeared, which occurred again after an interval of three weeks, and again after an interval of a fortnight; since then she had been bleeding every few days. There had been floodings from time to time, and between the floodings she had had a brown watery discharge. There had been little or no pain. She had had no trouble as regards micturition or defæcation, and the appetite had been good. She had got thinner lately.

On examination a globular swelling reaching a hand's-breadth above the pubes was felt rising out of the pelvis. It may be said at once that this was the pregnant uterus, the pregnancy having advanced to about the end of the fourth month, though the patient had no idea she was pregnant.

On vaginal examination a large "cauliflower" mass was felt in the vagina, springing from the posterior lip of the cervix, its attachments being rather to the left of the middle line. Anteriorly the mass was attached to the cervix by a spurious pedicle, but posteriorly it was continuous without constriction with the posterior lip of the cervix. The growth bled very readily on touching it. The vaginal portion, where not involved by the growth, was of a purple colour.

December 29th, 1887.—On this date I removed the greater part of the growth with the *écraseur*, with the intention of proceeding at once to the supra-vaginal amputation. The vascularity of the parts was, however, so great that I judged it would be safer to empty the uterus first, and allow time for the involution of the uterus and vagina to diminish the blood supply. I therefore dilated the cervix rapidly with Hegar's dilators, and removed the fœtus, placenta, and membranes. Altogether the patient was about an hour under the anæsthetic.

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

The patient did quite well afterwards, and in order to promote involution she was given ergotine. Hot vaginal douches were also used twice daily.

Operation, January 16th, 1888 (eighteen days after the uterus had been emptied).—On this date I performed the supra-vaginal amputation of the cervix. Douglas's pouch was opened to the extent of about two inches transversely. A somewhat quadrilateral piece of the peritoneum covering the posterior aspect of the supra-vaginal cervix was removed with the specimen.

The interval allowed for involution of the uterus before undertaking the operation must no doubt have diminished the vascularity of the uterus, yet at the time of the operation the parts were still very vascular.

Three pairs of Wells's large pressure forceps and six pairs of the smaller size were left on vessels: these were removed forty-eight hours later. The opening in Douglas's pouch was closed with three silver sutures.

I was satisfied at the time that the lines of section were in each direction made in apparently healthy tissue.

The patient had moderate fever for a few days after the operation, but after the first two days there was nothing in her condition to cause anxiety.

The sutures were removed on the tenth day.

After-History.—She came up to the Hospital soon after she had gone home. She was not examined on that occasion, and I never saw her again, but I heard that she died in a fainting fit some months later.

CASE 14.*—

E. P., a married woman, aged thirty-seven, was admitted into the London Hospital under my care on February 18th, 1889. She had had two children, the last ten years previously, but no miscarriages.

Present Illness.—About six months ago she had a flooding, which came on at the usual menstrual period. This lasted three or four days, and was succeeded by a greenish-yellow vaginal discharge: some bleeding occurred from

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

to time afterwards, about once a week. She had had ain, but had lately complained of feeling weak; she also lost flesh. For the last two or three months had had scalding on passing water. Her appetite had n bad, and her bowels generally constipated.

On vaginal examination under anæsthesia a large auliflower" mass was found growing from the cervix. was somewhat fusiform in shape, with the long diameter om before backwards. It was horribly fœtid. The mass as drawn down quite easily, and hitched outside the vulva. he greater part of the mass was cut away with scissors, nd Paquelin's cautery was applied to the stump.

Operation, March 28th, 1889.—The supra-vaginal amputation of the cervix was performed. At the commencement of the operation my impression was that, owing to a slight extension of the disease to the anterior vaginal wall, complete removal of the growth would be impossible without cutting away a piece of the bladder. I was able, however, to get beyond the apparent limit of the disease without doing this. Both Douglas's pouch and the vesico-uterine pouch of the peritoneum were opened. One stitch was used to close Douglas's pouch. When the cervix had been cleared as high as the internal os it was cut off with Paquelin's cautery. Many pairs of Wells's forceps were left on.

The patient did quite well after the operation, and left the Hospital on April 16th.

Her weight on admission was 9 st. 5½ lb., on leaving the Hospital 8 st. 11½ lb. On May 30th her weight was 9 st. 7 lb.

After-History.—This patient was known to be well three months after the operation. I have not been able to hear of her since.

CASE 15.*—

H. H., aged thirty-one, was admitted into the London Hospital under my care on April 27th, 1889. She had been married sixteen years, but had never been pregnant.

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

History of the Present Illness.—She had had a white discharge for three or four years, but about two months ago the discharge became yellow, and very fœtid. She had lost much less than usual at her last four menstrual periods, but between the periods the discharge had sometimes been streaked with blood. For the last four months she had complained of weakness and of great pain in the lower part of the back, which had gradually been getting worse. She had also lost flesh during the same time.

On vaginal examination there was a soft "cauliflower" growth on the vaginal portion of the cervix, chiefly situated on the posterior lip. It broke down readily on pressure. The uterus was in the normal position, and freely movable.

Operation, May 2nd, 1889.—The supra-vaginal amputation of the cervix was performed. Douglas's pouch was slightly opened in the course of the operation. The opening was subsequently closed with a silver wire suture. Wells's forceps were used to secure the vessels; these were removed in forty-eight hours.

On May 12th (that is, ten days after the operation) the patient suddenly lost half a pint of blood. A hypodermic injection of ergotine was given, and the bleeding stopped.

On May 20th there was again some bleeding, but this time it was only oozing.

The region of the wound was exposed with a speculum, and no arterial bleeding could be seen. Iodoform powder was applied to the stump, and an iodoform gauze plug was packed into the vagina.

On May 27th and June 6th the patient also had slight attacks of bleeding, which were stopped by ergotine and vaginal douches.

She left the Hospital on June 8th.

Her weight on admission was 11 st. 2 lb., and on leaving the Hospital was 10 st. 10 lb.

After-History.—I have unfortunately never been able to see this patient since she left the Hospital, or to obtain any information about her.

CASE 22.*—

Mrs. B., a married woman, aged forty-eight, came under my observation early in 1893. I was asked to see her by Dr. Godson. She had had one child twenty-six years previously, but no miscarriages. It was a case where some portion of the cervix was said to have been removed; indeed, I was told an amputation of the cervix had been performed for malignant disease some time previously. I was, however, certainly unable, on examining the patient, to find any evidence of such an operation having been performed; at all events, I found what appeared to be an unmutilated cervix, with a soft friable growth in the cervical canal just above the external os.

I performed the supra-vaginal amputation of the cervix on March 22nd, 1893. The steps of the operation were similar to those mentioned in the preceding cases. The after-progress was uneventful, except for a rather troublesome attack of secondary hæmorrhage during the second week after the operation, which, however, was adequately controlled by a hot vaginal douche, and firm plugging of the vagina with iodoform gauze.

Afterwards the patient's progress was quite satisfactory. I saw her on several occasions subsequently. The scar at the top of the vagina was quite healthy on the last occasion on which I examined her—namely, on December 17th, 1894. I have not seen her since that time, and unfortunately have not been able to hear anything about her.

With a view of obtaining a recent independent report on the histological characters of the growth in this case, I sent a section of it to the Clinical Research Association, and received the following report from Mr. Targett:—

"The growth (labelled B) is a soft glandular-celled carcinoma, such as would originate from the mucous membrane of the cervical canal. There is much inflammatory change in the affected tissues."

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

CASE 26.*—

C. J., aged forty-six, was admitted into the London Hospital under my care on January 5th, 1895. She had been married twenty-five years, and had had two children, the last twenty-four years ago. Her husband had been dead for twenty-three years. The catamenia appeared when she was fourteen years old, and menstruation had been regular and painless.

History of the Present Illness.—About ten months ago she began to have a yellow vaginal discharge, which, about six months later, became of a greenish colour, and was often streaked with blood, and very offensive. The patient had had to give up her work during the last four months. She did not consult a doctor till about a fortnight ago.

Operation, January 10th, 1895.—The patient was examined carefully under anæsthesia. There was a malignant growth of the cervix, the clinical type being that of an extensive conical ulcer. The supra-vaginal amputation of the cervix was then performed. Wells's forceps were used for securing the vessels. A few catgut sutures were used to the cut edge of the posterior vaginal wall to arrest bleeding. The cervix was cut off from the rest of the uterus rather above the level of the internal os with Paquelin's cautery.

On examination of the specimen it appeared that there was an eighth of an inch of apparently healthy tissue beyond the limit of the growth. The line of separation of the cervix anteriorly was so near the bladder that, when a sound was passed into the bladder, the point of it could be seen through the bladder wall. It will be understood, of course, that I do not mean that the bladder was opened.

The patient did quite well after the operation, and went home on February 5th, 1895.

After-History.—I last saw this patient at her own house, a few miles out of London, and examined her, on February 25th, 1896. She was confined to bed on account of her chest. Dr. Hadley saw her with me, and found

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

she had fibroid phthisis. There was no sign of recurrence of the cancer.

CASE 32.*—

S. G., aged forty-eight, was admitted into the London Hospital under my care on October 6th, 1897.

Previous History.—She was a married woman, and had had five children (the last twenty years ago), only one of whom was alive. She had had no miscarriages.

Menstrual History.—The catamenia appeared when she was sixteen, and she had been regular to the age of forty, when the menopause occurred.

History of the Present Illness.—Three months before the date of admission she began to lose blood in small quantity, like her ordinary menstrual period; and since that time she had had a red discharge, which was not offensive, nearly every day. Ten days prior to admission she had a flooding lasting two days. During the last three months she had also had pain in the lower part of the back, and she had been getting thinner.

Examination under Anæsthesia.—Nothing abnormal was detected on abdominal examination.

On vaginal examination a malignant ulcer was seen in the situation of the os uteri, admitting the tip of the finger for half an inch. With volsellæ, one in front and one behind, it was found that the uterus could be drawn down fairly well to the outlet.

Bi-manually, examining *per rectum*, there was some slight thickening felt in the left broad ligament, and in the left utero-sacral ligament. This was only slight; and though I considered it rather an unfavourable element, I thought it better to advise operation.

Operation, October 18th, 1897.—The supra-vaginal amputation of the cervix was performed as in the preceding cases. I find, on reference to my notes, that I began the operation rather with the intention of doing a vaginal hysterectomy; but on opening Douglas's pouch, it was found that the uterus was so adherent to the parts around

* The number refers to the Table of thirty-three consecutive cases of supra-vaginal amputation of the cervix for cancer (p. 219).

that I thought it better to content myself with the supra-vaginal amputation of the cervix. Pressure forceps were used for the vessels, and the usual iodoform gauze plug was inserted.

The forceps were removed on October 22nd, and the patient made an uninterrupted recovery.

VAGINAL HYSTERECTOMIES PERFORMED FOR CANCER OF THE CERVIX.*

In November, 1900, I read a paper before the Royal Medical and Chirurgical Society entitled "The After-Results in Forty Consecutive Cases of Vaginal Hysterectomy Performed for Cancer of the Uterus." Among the forty cases, the operation was performed for cancer of the cervix in twenty-nine cases. In one of these the disease proved subsequently, on microscopical examination, to have been tubercular, leaving twenty-eight. Six out of the twenty-eight remained free from recurrence, and the notes of these have already been given in full (p. 126).

Of the remaining twenty-two cases, in two cases (Nos. 12 and 17) the operation was incomplete—that is to say, although the uterus was removed, I was practically sure some infiltrated tissue had been left behind.

In one case (No. 4), although the clinical signs and symptoms were strongly suggestive of malignant disease, the presence of cancer could not be proved on microscopical examination.

One case (No. 22) was lost sight of.

Recurrence.

As regards recurrence, this was known to have taken place in fourteen cases.

During the first year recurrence took place in nine cases (Nos. 14, 16, 20, 21, 30, 31, 35, 37, and 40).

* Other than the six in which the disease is known not to have recurred.

During the second year recurrence took place in two cases (Nos. 9 and 10).

During the third year recurrence took place in two cases (Nos. 6 and 39).

During the fourth year recurrence took place in one case (No. 27).

Nos. 2, 13, 18, and 34 died.

The full notes of the twenty-two cases just analysed are as follows:—

Operation Incomplete in Nos. 12 and 17.

Case 12.*—

R. K., a married woman, aged forty-two, was admitted into the London Hospital under my care on August 12th, 1893.

Previous History.—She had always enjoyed good health. She had had three children, the last born twenty-three years ago, and no miscarriages. There was no family history of cancer.

Menstruation.—The catamenia appeared when she was thirteen, and she had always been regular every four weeks. The quantity lost had been normal.

History of the Present Illness.—She was quite well until the beginning of May, 1893, when a severe flooding occurred. Since then she had had frequent floodings—sometimes twice, sometimes three times a week. The intervals between the attacks had been irregular. The last attack was on August 8th. Between the floodings she had had an offensive vaginal discharge—generally white. She had lost flesh and strength since the beginning of the illness.

State on Admission.—She was rather anæmic, and complained of some stiffness in the calves of her legs and feet. Her appetite was very bad.

On examination of the abdomen nothing abnormal could be felt.

* The number refers to the Table of forty consecutive cases of vaginal hysterectomy performed for cancer (p. 224).

On vaginal examination a large "cauliflower" growth, like an inverted mushroom, was seen springing from the vaginal portion of the cervix. Both lips of the cervix were involved by the growth. The growth extended well up to the right lateral fornix, and had spread very close to the vaginal wall—if, indeed, this was not actually involved. The uterus seemed fairly movable. There was slight "thickening" felt in the region of the right broad ligament, and also in that of the left, and in the left utero-sacral ligament.

On examination *per rectum* there seemed to be more thickening of the left broad ligament than was recognised on vaginal examination.

Operation, August 28th, 1893.—The patient was anæsthetised, and placed in the lithotomy position. The cervix was seized with several pairs of volsellæ, and drawn down to the outlet. The steps of the operation were the same as described on pages 58–63. Pressure forceps were used to secure the vessels, and a plug of iodoform gauze was left in the vagina, part of it projecting into Douglas's pouch. My impression was that, although the uterus had been removed, portions of infiltrated tissue outside the uterus had been unavoidably left. The patient made a good recovery after the operation, but the temperature during the first three weeks ranged higher than in the majority of my other cases. During the first week it reached 102° on one occasion, and was several times 101°. It was 101·4° on two occasions during the second week, and during the third week it was in the neighbourhood of 100°. The forceps had been taken off, and the gauze removed on August 30th. The patient went home on October 20th, 1893.

Subsequent History.—On November 30th, 1893, the patient came up to the Hospital to show herself, and was examined. There was distinct evidence of the presence of a malignant growth in the neighbourhood of the wound, and it was probably due not so much to recurrence of the disease, as to infiltrated tissue outside the uterus having been left behind at the operation.

CASE 17.*—

This patient (Mrs. S.) came from Southampton, and was under my care in the London Hospital in August, 1894. There was a nodular malignant growth of the cervix. I performed a vaginal hysterectomy on August 16th, 1894, in a manner similar to that described on pages 58–63. Forceps were used for securing the broad ligaments. During the course of the operation, however, I felt certain that, although the whole of the uterus was removed, some infiltrated tissue, particularly on the base of the bladder, was left behind.

MALIGNANT DISEASE NOT PROVED (No. 4).

CASE 4.*—

E. M. D. was admitted into the London Hospital under my care on October 11th, 1890.

Previous History.—She had been married twice, the first time twenty years ago. She had had three children by the first husband; the youngest only of these is living, and is sixteen years old. She married the second time twelve years ago, and had not been pregnant since.

Menstruation.—She did not remember when this began, but she used to be regular every four weeks, and the discharge lasted three or four days.

History of the Present Illness.—For the last twelve months certainly—she thought it was somewhat longer—she had had a red vaginal discharge between the periods. This was now continuous, so that she scarcely knew when the menstrual periods occurred. She had not had any pain; she had lost flesh, and had felt herself getting weaker during the last three months.

October 13th, 1890.—She was examined under anæsthesia on this date. The cervix was drawn down with a volsella, and then a definite "cauliflower" growth was seen just within the cervical canal attached to the posterior lip. It bled freely on touching it. The uterus was of normal size,

* The number refers to the Table of forty consecutive cases of vaginal hysterectomy performed for cancer (p. 224).

and freely movable. A slight thickening was felt in the left broad ligament, but it did not affect the mobility of the uterus appreciably.

Operation, October 23rd, 1890.—The operation originally contemplated was the supra-vaginal amputation of the cervix. The anterior vaginal wall was incised with scissors, the posterior with Paquelin's cautery. Douglas's pouch was opened. About this time it became evident that the thickening of the left broad ligament was probably due to an extension of the growth in that direction. It was decided, therefore, to remove the whole uterus. Large pressure forceps were used to secure the broad ligaments. One pair was specially placed outside the infiltrated part of the left broad ligament, in the hope that by subsequent sloughing all the diseased tissue in that direction might be got rid of. The pressure forceps were all removed in forty-eight hours' time.

The patient made a good recovery, and left the Hospital on December 5th, 1890.

There was one remarkable feature observed after the operation which I have never seen after any other vaginal hysterectomy. It was this: that the urine drawn off with a catheter contained a good deal of blood, and blood-casts were seen on examining it under the microscope. This hæmaturia came on a day after the operation, and continued for some days. Ultimately before the patient left the Hospital the urine became quite normal again. During the presence of the hæmaturia her general condition was otherwise quite satisfactory.

After-History.—I can say that I have seen this patient many times, and have examined her many times during the years that have elapsed since the operation. I have seen her this year (1902). There has been no sign of recurrence, and she remains well.

Dr. E. O. Ashe was Resident Accoucheur during the time the patient was in the Hospital.

In this case also microscopical examination of the tissues clinically believed to be malignant gave negative results, so that this case must be classed with those in which the nature of the growth was doubtful.

LOST SIGHT OF ONE CASE (No. 22).

CASE 22.*—

K. de B., aged thirty-five, was admitted into the London Hospital under my care on April 4th, 1895, at the request of Dr. Cursham Corner.

Previous History. — She had had six children, the last five years and eight months ago. Her confinements had always been easy, and she had got up on the tenth day. She had had no miscarriages.

Menstruation.—Menstruation began when she was between sixteen and seventeen. She was regular every four weeks, the flow lasting four or five days, and it was not accompanied by any pain.

Family History.—Her father died of "heart disease," aged sixty-three. Her mother died of phthisis, aged forty-three. One brother died of "heart disease," aged thirty-nine. Four brothers and one sister died in infancy.

History of the Present Illness.—For the last eighteen months there had been a "slight loss" between the periods, and for the last two or three months there had been an offensive inter-menstrual discharge. She had also occasionally noticed bleeding after coitus. For the eighteen days preceding her admission to the Hospital she had been losing blood, and she thought it must have been due to a miscarriage.

State on Admission.—The patient was a woman of dark complexion, and markedly anæmic. Her weight was 6 st. 11 lb.

On vaginal examination some yellow discharge stained with bright blood was seen about the vaginal orifice. The discharge was offensive. The anterior lip of the cervix was apparently healthy, but on the posterior lip there was a large "cauliflower" growth of the "inverted mushroom" type, which extended backwards almost to the vaginal wall.

She was examined under anæsthesia with a view to decide the question of operation. The uterus was found

* The number refers to the Table of forty consecutive vaginal hysterectomies performed for cancer (p. 224).

to be freely movable, and could be drawn down to the outlet of the vulva. The extension of the growth towards the vagina was most marked behind and also to the right. A note made at the time says that although it was decided that an operation was worth doing, the growth was so extensive that the prognosis as regards early recurrence was considered unfavourable.

Operation, April 25th, 1895.—The patient was anæsthetised, and placed in the lithotomy position. After douching with perchloride of mercury lotion, the cervix was drawn down with several volsellæ. The vaginal wall was incised about a quarter of an inch from the growth all round, and the bladder first separated up to the utero-vesical pouch. The proximal margin of the cut vaginal wall was seared with Paquelin's cautery. Douglas's pouch was opened, and the finger passed so that the utero-vesical pouch of peritoneum could be opened on it. The lateral attachments were clamped with pressure forceps on each side, and the uterus was then removed. After washing the vagina and Douglas's pouch with iodine water, the usual iodoform gauze plug was inserted.

The pads placed below the forceps when the patient was put back to bed were changed as often as they became blood-stained. After eight p.m. on the 26th the pads were no longer blood-stained. The forceps and gauze plug were removed at the end of four days.

The patient's progress after the operation was uneventful, but on the 28th the temperature reached 101° at night, and on the 29th 101·8°, the highest point reached. The pulse on the same date was 112, but on other days it was generally well below 100.

On May 20th she was examined, and the following note made:—"At the top of the vagina there is a granulating cavity about threequarters of an inch deep, of elliptical shape, with the long diameter transverse. All the sloughs have separated."

She was allowed up on May 22nd, and went home on June 8th.

After-History.—This patient came to see me at the London Hospital from time to time after the operation.

Thus I saw and examined her in March, 1897, and also on June 16th, 1898, and there was no sign then of any recurrence—that is to say, I know that she was quite well and without recurrence for more than three years after the operation. I am not certain that she ever had recurrence, although she is dead. I heard that she died in America a comparatively short time (a few months only) after I last examined her. There was then no sign of recurrence. I think it highly improbable that she could have died of recurrence within a few months of the time when I last examined her, as there was no evidence of any return of the disease then.

This case and the preceding one were to me very instructive cases, and I showed the specimens (that is of Cases 21* and 22*) at a meeting of the Obstetrical Society of London with reference to the point to which I am about to refer. In both specimens the size of the malignant growth was very considerable, and, comparing them together, one could not say that the disease was more advanced in one than in the other. Yet the after-histories were exceedingly different. Case 21 had practically no interval after the operation during which she was free from the symptoms. Within three months she had a large malignant ulcer at the top of the vagina, due to a recurrence of the disease; whereas in the other case (Case 22) the patient had, as the result of the operation, certainly more than three years of complete immunity from the disease. I am not even certain that the disease ever returned.

RECURRENCE DURING THE FIRST YEAR AFTER OPERATION (Nos. 14, 16, 20, 21, 30, 31, 35, 37, 40).

CASE 14.*—

This patient (Mrs. F.), aged fifty-two, was admitted into the London Hospital under my care on February 10th, 1894.

Previous History.—She married at the age of sixteen, and had had sixteen children; her last child was born

* The numbers refer to the Table of forty consecutive vaginal hysterectomies performed for cancer (p. 224).

seven years ago. Fifteen of the children were born living; the ninth child was still-born. She had had one miscarriage twenty years ago. All her labours were said to have been easy.

The catamenia appeared at the age of thirteen, and she was regular every four weeks up to her marriage. The menopause occurred at the age of fifty.

History of the Present Illness.—About the beginning of 1894 she first noticed a vaginal discharge. The discharge was white, mixed with blood; it became gradually more copious. About a month before admission she had a pain in the lower part of the abdomen, rather to the left side. The pain was chiefly felt during the day when she was up and about; it was not felt at night. The pain was shooting in character. It sometimes went down the left thigh.

State on Admission.—The patient had a robust appearance, and her face had a good colour.

February 15th, 1894, *examined under Anæsthesia.*—There was a considerable amount of fat in the abdominal wall. No tumour could be felt by palpation of the abdomen alone.

On vaginal examination the apparent diameter of the vaginal portion was very much increased, and a soft "cauliflower" growth was seen at the os uteri; it spread up the cervical canal as far as the finger could reach. Probably owing to ulceration, the finger was able to pass about half an inch up the cervical canal. The growth was only slightly raised above the surface; it seemed granular, and showed apparently a tendency to spread to the vaginal fornices, especially on the left side, where the margin of the growth formed a slightly raised overhanging rim. The uterus was drawn down with two volsellæ, and was fairly movable. Bands could be felt, however, to the left and right. It was doubtful whether they indicated extension of the disease in the directions mentioned, or whether these bands were due to old inflammatory mischief. The whole vaginal portion in view occupied an area equal to that of a five-shilling piece. It presented in the centre a somewhat excavated appearance.

Operation, February 22nd, 1894.—Vaginal hysterectomy was performed. The steps of the operation were similar to those described in other cases. Pressure forceps were used to secure the vessels.

The patient made a good recovery after the operation. She was examined on March 22nd, 1894, and the following note was made:—

"At the upper part of the vagina there is a somewhat shallow cavity in the situation of the wound. Projecting from this cavity are three red eminences, the nature of which is doubtful."

The patient left the Hospital on March 25th, 1894.

After-History.—I saw this patient in August, 1894, and there was undoubted evidence of a return of the disease in the situation of the scar.

CASE 16.*—

This patient (Mrs. B.) was sent to me in August, 1894, by Sir John Williams. He told me she was suffering from cancer of the cervix, and, as he was going out of town, he asked me to examine the patient under anæsthesia to determine whether an operation should be done, and to perform it if I found that the case appeared suitable.

I have mislaid the notes of the history of the case.

The patient was an elderly lady somewhere about fifty years of age. There was a history that she had had a mucous polypus removed about a year previously.

I examined her very carefully under an anæsthetic at 33, Beaumont Street. There was a large "cauliflower" growth of the cervix. The uterus could be easily drawn down to the outlet of the vulva. There was a nodule, apparently quite separate from the cervix, in the left broad ligament about the size of a hazel-nut.

Operation, August 13th, 1894.—On this date I performed vaginal hysterectomy, removing at the same time the nodule felt in the left broad ligament. So far as I could tell at the operation all the obviously malignant

* The number refers to the Table of forty consecutive vaginal hysterectomies performed for cancer (p. 224).

growth was removed, but the presence of the nodule in the left broad ligament, although it seemed isolated and appeared to be removed completely, of course rendered the prospect of any prolonged benefit rather doubtful. Forceps were used for the broad ligaments. These were removed in forty-eight hours' time after the operation.

The patient made a good recovery after the operation.

I never saw her after she went home. I never had any absolutely precise information about her, but indirectly I heard that she had a return of the disease comparatively soon.

CASE 20.*—

E. N., aged forty-five, was admitted into the London Hospital under my care on November 26th, 1894. She was sent to me by Dr. Winn, of Hackney.

Previous History.—She had lived in London since she was sixteen years old, and was married at the age of twenty-three. She had had four children, all of whom were born within the first five years after marriage. Since then there had been no other pregnancy.

She had had rheumatic fever twice, the first time at the age of twenty, when she was in bed five months, and the second time when she was twenty-four. Nine years ago she "burst a blood-vessel" in the lung.

Menstrual History.—She began to menstruate at the age of twelve, and was regular from the beginning. The flow usually lasted four or five days, and was unattended by pain.

History of the Present Illness.—Up to five months ago the patient was quite well in herself. About that time she noticed a bright red discharge mixed with clots between the periods. From that time up to the date of her admission she had had a constant red discharge, and during the last two months she had had three severe floodings, all occurring within a fortnight. During the six weeks immediately preceding her admission the discharge had

* The number refers to the Table of forty consecutive vaginal hysterectomies performed for cancer (p. 224).

been very slight, but during that time she had had a great deal of pain, which kept her awake at night.

State on Admission.—The patient appeared quite well, and said she "felt well in herself." Her appetite was good, but she was unable to sleep without a sleeping-draught.

On November 29th, 1894, she was examined under anæsthesia. The uterus could be drawn down to the outlet of the vulva. There was very little projecting growth seen. It appeared to be a case where the greater portion of the growth lay within the cervical canal, and, as far as could be ascertained at this examination, there was no extension of the disease into the connective tissue outside the uterus.

Operation, December 6th, 1894.—Vaginal hysterectomy was performed as described in the preceding cases. Paquelin's cautery was applied to the cut edge of the vaginal wall all the way round. As the operation proceeded it became evident that the disease had spread to some extent into the right broad ligament. Wells's forceps were used to secure the vessels. The usual iodoform gauze plug was inserted.

Subsequent History.—The patient made an uninterrupted recovery after the operation. The temperature only once reached 101°, which was on the evening of the fourth day, the day on which the forceps and iodoform gauze were removed.

I felt practically certain at the end of the operation that, although the whole uterus was completely removed, some infiltrated tissue in the right broad ligament had been left.

CASE 21.*—

C. G., aged thirty-seven, was admitted into the London Hospital under my care on February 2nd, 1895, at the request of Dr. Cory, of Bournemouth.

Previous History.—She was born in London, and had lived there all her life, till six months ago, when she

* The number refers to the Table of forty consecutive vaginal hysterectomies performed for cancer (p. 224).

went to live at Bournemouth. She had been married five years, and had had three children, the last (which was stillborn) six weeks before admission.

Menstruation.—The catamenia commenced when she was between twelve and thirteen years old, and were regular and normal. Her confinements were uncomplicated.

History of the Present Illness.—She dated her illness from the time of the second confinement two and a half years ago. Since then she had had a more or less blood-stained discharge continuously. It was noticed all through the last pregnancy, and when she was near term it had an offensive smell. She thought she had been losing weight since the second confinement. Immediately after this her husband was very ill, and she worried and fretted a good deal on this account.

State on Admission.—On admission the pulse and temperature were normal, and there was no evidence of any disease of the heart, lungs, or kidneys.

On vaginal examination an extensive "cauliflower" growth was felt involving both lips of the vaginal portion of the cervix about equally. The growth seemed to be extending to all the fornices, but had spread most to the left lateral fornix. The uterus was freely movable.

On February 4th a careful examination was made under anæsthesia. The uterus was drawn down with volsellæ, and came to the outlet easily. It seemed to me that it would be worth while to remove the uterus, although the chances seemed rather against any permanent benefit being obtained.

Operation, February 14th, 1895.—The patient was anæsthetised and placed in the lithotomy position. A vaginal douche of perchloride of mercury (1 in 1,000) was then given, and the cervix was drawn down by means of five volsellæ. The vaginal wall was incised about a quarter of an inch from the edge of the growth all the way round. As the vaginal wall was cut, the proximal part was cauterised with Paquelin's cautery. Douglas's pouch was opened rather early in the operation. Anteriorly the incision was so near the bladder that great care

was needed to avoid opening it. At one time, owing to the care used to avoid the bladder, the anterior wall of the cervix in the neighbourhood of the internal os was cut into superficially. The finger was introduced into Douglas's pouch and made to define the utero-vesical pouch, which was then opened on the finger. The whole of the lateral attachments of the uterus were then clamped with pressure forceps, the right side being first dealt with, and then the left. The attachments were divided between the forceps and the uterus on each side, and the uterus was then removed. The vagina and the field of the operation, including Douglas's pouch, were washed out with 1 in 40 carbolic lotion, and two strips of iodoform gauze were left in the vagina, the upper part of the gauze lying in Douglas's pouch.

The patient stood the operation well, and afterwards made an uninterrupted recovery. The iodoform gauze and pressure forceps (twelve in number) were removed on the 18th inst.

The highest temperature was 101°, noted on the evening of the second day. On the fourth day it reached 100·2° in the evening, but was never afterwards above 99·5°. The pulse rate was under 100, except on the two occasions when the temperature was up, noticed above, when it was 118 and 100 respectively.

The patient was not douched till the eighth day. Vaginal douches of sanitas lotion were then used twice a day.

On March 7th she was examined. At the top of the vagina there was a funnel-shaped granulating cavity, which looked healthy.

On March 14th she was again examined. The granulating cavity was still to be seen, but was smaller than on the 7th.

She went home on March 18th.

After-History.—She came up to the Hospital to see me about three months afterwards, and on examining her there was a large conical ulcer at the top of the vagina, evidently malignant, and due to recurrence in the scar.

CASE 31*—

E. S., aged sixty, was admitted into the London Hospital under my care on June 2nd, 1897.

Previous History.—The patient had had twelve children, the last eighteen years ago, and one miscarriage twenty years ago, when she was three months pregnant.

Menstruation.—The catamenia began when she was sixteen, and she was regular every four weeks. The menopause occurred at the age of forty-five, and from that time she "saw nothing" till Easter Monday, 1897 (*i.e.* seven weeks ago), when she had a flooding. She had been losing blood almost constantly since. She had felt pain in the lower part of the back at the same time, which had never left her, but was greatly eased by lying down. She had been losing flesh rapidly of late, and complained of being very weak. When she had not been actually bleeding there had been an offensive watery discharge.

On June 3rd, 1897, she was examined under an anæsthetic. The uterus was freely movable. In the situation of the os uteri there was a conical cavity admitting the tip of the finger to the extent of one inch. The posterior border of the cavity was fringed with a soft, friable, evidently malignant, growth. It was rather uncertain whether the posterior margin of the growth had involved the vagina slightly. The uterus, however, could be drawn down to the outlet of the vulva. It seemed to be a case where it was worth while performing a radical operation.

Operation, June 10th, 1897.—Vaginal hysterectomy was performed, the main features of the operation being identical with those already described in the preceding cases. Pressure forceps were used for securing the vessels. These were removed four days later.

She made a good recovery after the operation.

On July 7th, 1897, she was examined. There was a semicircular area at the top of the vagina on the anterior aspect of the operation wound. It looked a little suspicious, but did not bleed readily.

* The number refers to the Table of forty consecutive vaginal hysterectomies performed for cancer (p. 224).

The patient went home on July 13th, 1897.

After-History.—She came to the Hospital on July 28th, 1898, and said she had been quite well until about three weeks previously. Then pain came on in the back and hypogastric region, and also a discharge, which had continued. She said the discharge was yellow, and that there was no blood in it; but she saw a little blood on one occasion five weeks ago, and also three weeks ago, and also a few days ago. She had lately become much thinner, and had lost her appetite.

On abdominal examination nothing abnormal was felt.

On vaginal examination a patch about the size of a two-shilling piece was seen at the top of the vagina—evidently malignant. It bled very freely on touching it.

CASE 31.*—

A. B., aged sixty, was admitted into the London Hospital under my care on August 19th, 1897.

Previous History.—She had been married thirty-nine years, and had had five children, the last twenty-seven years ago, and three miscarriages, the last eighteen years ago. Her confinements had not been difficult, and she had never stayed in bed more than ten days afterwards. After the last miscarriage, eighteen years ago, she was in bed about two months, and lost a great deal of blood.

Menstruation.—Menstruation began at fourteen, and was quite regular up to the age of forty-eight.

History of the Present Illness.—Up to March, 1897, she had "seen nothing" for nearly twelve years. In March she lost a little blood. This lasted for two or three days, and the patient said she thought her periods were returning. She "saw nothing" after this for a month, and then again a discharge of blood occurred, lasting two or three days. For the six weeks preceding her admission to the Hospital the patient had been losing a great deal of blood. It had been bright red in colour, and at times clots had been passed. She said she had

* The number refers to the Table of forty consecutive vaginal hysterectomies performed for cancer (p. 224).

had no pain, and that the sanguineous discharge had not been offensive. Till quite recently she had been doing her work about the house. She said she had been "worrying" a great deal about the bleeding, and that of late she had lost flesh to some extent. She never had a bad appetite, but lately she had not felt any wish for food. During the last few weeks she had perspired profusely at night. She had had fairly good health, though she had never been very strong. She had suffered with bronchitis in the winter at times, but there was no history of any severe illness. She had always been troubled with constipation, and sometimes with piles, and when the bleeding first occurred, in March, 1897, she at first thought that it was caused by piles.

Family History.—As regards the family history, her father and mother both lived to be over seventy.

State on Admission.—She was not anæmic; on the contrary, her lips and nails had a good colour. There was no evidence of any disease in the chest, and the urine was normal.

August 21st, 1897. — She was examined under anæsthesia. Nothing abnormal could be detected on examination of the abdomen.

On vaginal examination a malignant growth was found involving the posterior lip of the cervix, and enlarging it into a somewhat irregular mass the size of a walnut. The anterior lip seemed healthy. With a volsella fixed on the anterior lip the cervix could be drawn down to the vulva. A sound pressed against the growth readily penetrated it. The uterus was freely movable, and there was no evidence that the disease had extended beyond it.

September 2nd, 1897.—Vaginal hysterectomy was performed. During the course of the operation I had some suspicion that the growth had infiltrated the connective tissue to a slight extent on the left side of the cervix. Wells's forceps were used to secure the vessels. The forceps and gauze were removed on September 6th. The patient's recovery from the operation was uninterrupted.

After-History.— Recurrence took place in the scar, and the patient died on May 19th, 1898, about nine months after the operation.

CASE 35.*—

The patient (Mrs. H.) was a married lady, about fifty, and had had several children. She was seen by me in consultation with Dr. McMullen, of Brixton. It was a case of malignant disease of the cervix of the ulcerative type, in which there was a limited extension to the posterior vaginal wall. In spite of that, it seemed to me to be a case where vaginal hysterectomy was worth trying. (The event, in some respects, decidedly confirmed my opinion.)

Vaginal hysterectomy was performed on October 5th, 1897. The patient made a good recovery from the operation.

After-History.—Six months later she began to suffer from severe pains in the hypogastric and iliac regions, but there was no vaginal discharge. I examined her about this time, and a lump was to be felt towards the left side of the pelvis rather high up. It seemed to be due to recurrence of the disease—probably in the glands. When I examined her, there was no recurrence in the scar. The patient died in July, 1898, and up to the time of her death there was no bleeding, or other discharge, from the vagina, the scar remaining uninvolved to the last.

It certainly struck me as remarkable, considering the extension of the disease to the posterior vaginal wall noticed at the time of the operation, that when recurrence did take place, it should have been at a distance, and that the scar should have remained healthy. At all events, although this patient suffered from severe pain, when recurrence took place, she was saved the misery of a continuous offensive discharge from the vagina.

* The number refers to the Table of forty consecutive vaginal hysterectomies performed for cancer (p. 224).

CASE 37.*—

A. D., aged thirty-eight, was admitted into the London Hospital under my care on May 2nd, 1898.

Previous History.—She had been married twelve years, and had had one child eleven years ago.

Menstrual History.—The catamenia began when she was eleven years of age, and she was regular every three weeks till nine months before admission. The periods lasted three or four days. Nine months before admission she missed a period, and about the sixth week lost a good deal of blood in clots. Since then she had been irregular, the intervals between the periods being either longer or shorter than normal.

History of the Present Illness.—All that she had noticed wrong was that there had been a vaginal discharge mixed with blood since the January previous to her admission. She also said that she had been losing weight. She had had no pain. She first consulted her own doctor six weeks before admission. He gave her medicine for three weeks, and then examined her, and recommended her to come to the Hospital. She said that the vaginal discharge had been offensive.

Examination, May 4th, 1898.—Abdominal Examination.—Nothing abnormal was felt.

Vaginal Examination.—The external parts were somewhat inflamed, as in cases where there is a constant discharge. In the situation of the os uteri there was a malignant ulcer, admitting the finger about an inch.

May 5th, Examination under Anæsthesia.—The uterus then appeared to be freely movable. For all that, I was doubtful as to whether the disease had not involved the connective tissue round the cervix, in front and behind, to some extent. As I felt uncertain on the matter, I advised the patient to have the uterus removed.

Operation, May 12th, 1898.—Vaginal hysterectomy was performed as described in the preceding cases. The cervix could be drawn down almost to the vaginal orifice, but the tissue between the cervix and bladder was not so

* The number refers to the table of forty consecutive vaginal hysterectomies performed for cancer (p. 224).

loose as it usually is, and suggested that it might be slightly infiltrated with the malignant growth. There was great difficulty in getting the body of the uterus down, owing to adhesions about the right uterine appendages. The right ovary was somewhat enlarged, and one cyst in it was punctured. The vessels were secured by

Fig. 40.—Section of the growth removed in Case 37. Squamous-celled carcinoma and adenoma of the cervix in the same section. (See Mr. Targett's report on p. 196.)

Wells's forceps, and the usual iodoform gauze plug was inserted.

Examination of the specimen showed that the body of the uterus was quite healthy, and the uterine tissue adjacent to the left broad ligament was also apparently healthy; but as to the uterine tissue adjacent to the right broad ligament, it seemed doubtful whether the whole of the infiltrated tissue had been removed.

The patient made a good recovery after the operation, and went home on June 17th, 1898.

After-History.—As regards the after-history, the patient had undoubted recurrence of the disease in March, 1899. I saw her once more (on June 5th, 1899), when her general condition was very much worse, and she died not very long afterwards. (Recurrence within the first year.)

A portion of the growth was sent to the Clinical Research Association, and the following report on it by Mr. Targett was received:—

"This is a very unusual specimen, from the complexity of its structure. There is an abundant glandular formation in the cervix which must be described as adenomatous; but alongside with this, and, in fact, mingled with it in some parts, are solid epithelial processes of squamous-celled carcinoma. In other words, we have adenoma and carcinoma in the same specimen and in the same microscopic section. My impression is, that the carcinoma has arisen from the surface epithelium, and is independent of the adenomatous growth, though so closely associated with it. For if the cancer were truly secondary to the cervical 'erosion,' then it ought to have been of the columnar-celled type and tubular in arrangement" (see Fig. 40).

CASE 40.*—

E. K., aged thirty-six, was admitted into the London Hospital under my care on April 22nd, 1899.

Previous History.—She had been married sixteen years, and had had seven children and three miscarriages. The miscarriages were before the birth of the first child. The last child was born in September, 1897.

Menstrual History.—The catamenia began when she was between thirteen and fourteen, and lasted three or four days, and were accompanied by rather severe pain the first day. Menstruation had usually been quite regular.

History of the Present Illness.—She had been suffering

* The number refers to the Table of forty consecutive vaginal hysterectomies performed for cancer (p. 224).

from pain in the left side since her last confinement a year and a half ago. The pain was almost constant, and it was worse at the menstrual periods. She was in bed for two months after that confinement on account of the pain. After that she was able to get about until the middle of December, 1898. Since that time she had been losing blood every day. The hæmorrhage was worse in the morning, and decreased in quantity during the day. Since the beginning of January, 1899, she had been unable to do her work, and had been confined to the house, and had spent most of the time lying down, or sitting with her feet up. The patient had been gradually getting weaker and losing flesh since the hæmorrhage started.

Examination, April 22nd, 1899.—Abdominal Examination.—Nothing abnormal was felt, but there was about an inch and a half of fat in the abdominal wall.

On vaginal examination there was seen a good deal of fresh blood about the external parts. The vaginal orifice was large, owing to laceration of the perineum, and there was slight prolapse of the anterior vaginal wall. Bi-manually the uterus was found to be in the normal position—not enlarged. The vaginal portion was much increased in size, and was the seat of an irregular growth, the surface of which was irregularly pitted. The growth extended closer to the right lateral fornix than to the left.

Through the speculum an irregular large growth was seen, springing chiefly from the posterior lip of the cervix, and extending more in the direction of the right lateral fornix than of the left. The growth easily broke down on pressure with the sound.

April 24th, 1899, Examination under Anæsthesia.—It was found that the uterus could be drawn down quite easily to the vulva. There was just a suspicion of "thickening" in the right utero-sacral ligament. On inspection merely, the growth seemed to be limited to the cervix, but on palpation a few isolated nodules like small shot could be felt under the vaginal mucous membrane, about a quarter of an inch from the obvious

margin of the growth. In the centre of the growth there was an ulcer covered by a yellowish slough.

Operation, April 27th, 1899.—Vaginal hysterectomy was performed as already described in the preceding cases. Paquelin's cautery was used to sear the edges of the vaginal walls after the preliminary incisions had been made with scissors. Wells's forceps were used to secure the vessels. A plug of carbolic gauze was inserted.

The patient made a good recovery from the operation, and went home on May 24th, 1899.

After-History.—As regards the after-history, the disease recurred early in the year 1900. (Recurrence within the first year.)

RECURRENCE DURING THE SECOND YEAR (NOS. 9 AND 10).

CASE 9.*—

M. J. M., aged thirty-five, was admitted into the London Hospital under my care, at the request of Dr. Strouts, of Maidstone, on June 24th, 1893. She had been married seventeen years, and had had five children, the last five years and a half previously. She had had no miscarriages. Her confinements were easy and natural. She had worked at a paper mill.

Family History.—Her father died at the age of fifty-nine of "enteritis." Her mother died at the age of fifty-eight of pneumonia. She had five sisters living, who were all healthy. There was no history of syphilis or consumption in the family.

The catamenia appeared when she was fourteen, and she had been regular every month; the flow lasted three days, and was normal in quantity.

History of the Present Illness.—Up to a fortnight ago the patient said she was quite well. Then she suddenly noticed a copious flooding. This lasted for three hours, and was so abundant as to soak the bed through. She

* The number refers to the Table of forty consecutive vaginal hysterectomies performed for cancer (p. 224).

had been losing continuously since. She had been getting thinner for the past twelve months.

State on Admission.—On abdominal examination nothing abnormal was felt.

There was some yellow discharge at the vaginal orifice. The uterus was of the ordinary size, and in the

Fig. 41.—The uterus removed by vaginal hysterectomy in Case 9.* A median sagittal section has been made.

ordinary position. The sound passed three inches. The anterior lip of the cervix appeared healthy. The posterior lip of the cervix was greatly thickened by the presence of a large nodule of new growth, evidently malignant. This formed a projection at the os uteri, and

* The number refers to the Table of forty consecutive vaginal hysterectomies performed for cancer (p. 224).

a portion of the posterior lip could be recognised behind it. The growth bled readily on touching it, and was friable.

On June 30th she had a flooding while coming upstairs to the ward after being in the garden. She was still bleeding up to July 20th.

Operation, July 20th, 1893.—Vaginal hysterectomy was performed in a manner similar to that already described in other cases. Wells's forceps only were used to secure the vessels; seventeen pairs in all were used. The pressure forceps were taken off two days afterwards. There was slight bleeding when the forceps were taken off. A Sims's speculum was introduced, but the oozing only seemed to be slight. The vagina was therefore only plugged with iodoform gauze.

Subsequently she did quite well.

August 8th.—She was examined on this date. There was a transverse wound at the top of the vagina two inches in length, which had the appearance of a healthy granulating surface.

On August 17th she was again examined, and the wound had healed.

The highest temperature observed after the operation was 100·8° on the evening of the day on which the forceps were removed.

On August 20th she left the Hospital.

Subsequent History.—She was examined on November 9th, 1893. There was then no sign of any return of the disease. In the autumn of 1894, however, she came up to the Hospital and was examined, and it was at once evident that the disease had returned.

CASE 10.*—

A. C., a married woman, aged twenty-eight, was admitted into the London Hospital under my care on July 26th, 1893, at the request of Dr. Corbett, of Grays, Essex. She had had three children, and one miscarriage. The last child was born two years ago, and the miscarriage occurred three years ago at the third month.

* The number refers to the Table of forty consecutive vaginal hysterectomies performed for cancer (p. 224).

The catamenia appeared at eleven, and she was regular every three weeks. As a rule menstruation had been regular. The period lasted about a week, and was attended with a good deal of pain.

Present Illness.—Ever since the first child was born, about six years ago, she had had a more or less constant vaginal discharge. For the last three months, however, the discharge had changed its colour, and become red. She had had pleurisy about three months before her first confinement. She had suffered a good deal from indigestion, and at the time of her admission had dyspeptic ulcers in the mouth.

State on Admission.—The patient was extremely nervous, and inclined to be hysterical, so that no satisfactory examination was possible without an anæsthetic. She was accordingly anæsthetised, and the following note was made:—

"The uterus on bi-manual examination is of normal size, and freely movable. The anterior lip of the cervix is apparently healthy, and about a quarter of an inch thick. The posterior lip of the cervix is enormously thickened, so as to measure (as ascertained after removal) about two inches from before back. It is the seat of a large 'cauliflower,' malignant growth, bleeding very readily on touching it. As far as can be ascertained the disease has not extended beyond the limits of the uterus."

Operation, August 4th, 1893.—The patient was anæsthetised with ether, and the cervix drawn down to the vulva. A line was drawn round the vaginal fornices with Paquelin's cautery about three-eighths of an inch from the margin of the growth. The bladder was then separated from the cervix, and the cervix was cleared behind and laterally, pressure forceps being used to secure the bleeding vessels. As the vaginal walls were incised they were cauterised with Paquelin's cautery, so that the "bed" from which the cervix had been dissected was seared with the cautery. Douglas's pouch having been opened, the fundus was brought down, and the broad ligaments secured with large pressure forceps. First, the

right broad ligament was secured and divided, and then that on the left side. The right ovary was removed with the uterus, but about two-thirds of the left ovary were removed after the uterus had been taken away. The vagina was well packed with iodoform gauze, the upper part of which projected to the extent of about an inch into Douglas's pouch. The pressure forceps were removed on August 6th.

The temperature the same evening was 102°, the highest point it reached. During the next three weeks it only reached 100° on two occasions, for the most part not being above 99°.

On August 18th she was examined, and through the speculum an elliptical granulating wound, that seemed healthy, was seen at the upper part of the vagina.

On September 5th she was again examined, and the wound at the top of the vagina was found to have healed.

She went home the next day.

Subsequent History.—I saw her on three occasions; the first time on November 21st, 1893, the second time on March 5th, 1894, and the last time I saw her was on June 20th, 1894. On the first two occasions there was no sign of recurrence, and she had had no discharge. On her visit on March 5th, 1894, however, she complained of pain right down the right leg, and said it was similar to what she had had four years previously. On examination there was nothing pointing to recurrence—no discharge, and no bleeding on examination. On June 20th, 1894, the last occasion on which I saw her, she had pain down the right thigh in front and behind. She said there had been no discharge, but on examining her a little patch was found on the upper part of the vagina, which bled readily. I had no doubt that this patch indicated recurrence of the disease.

I never saw her again, but heard from her husband that she died on February 23rd, 1895, with symptoms that pointed to a recurrence of the malignant disease.

RECURRENCE DURING THE THIRD YEAR (NOS. 6, 39).

CASE 6.*—

Mrs. B., aged fifty-nine, was sent to see me on June 7th, 1892. She had had nine children, the last sixteen years ago, but no miscarriages. She had been a widow thirteen years.

The menopause occurred several years ago; she does not exactly remember how many. She had had no vaginal discharge till January, 1892. She had then noticed a slight red discharge. It was sometimes yellow, but more frequently red. She had had no pain at all. She did not think she had lost flesh. Her appetite was fair. Her general health had usually been good.

On examination of the abdomen nothing abnormal was felt.

On vaginal examination the external parts looked sore. The vaginal portion of the cervix did not project much. The external os seemed to be more patulous than usual in persons of her age. There was a blood-stained discharge in the vagina before digital examination. The uterus was very fairly movable. There were some senile bands close to the cervix. Through the speculum, when the os was brought well into view, it was evident that there was ulceration within the cervical canal. The discharge on the wool used for mopping the cervix was extremely fetid.

Operation, June 16th, 1892.—Vaginal hysterectomy was performed. Five pairs of Wells's forceps were used to secure the broad ligaments, three large and two small; these were removed two days later. Considerable difficulty was found in separating the anterior wall of the cervix from the bladder, as there was a mere shell of cervical tissue anteriorly. This step of the operation, however, seemed to be satisfactorily accomplished, and the operation appeared to be in the technical sense "complete."

The patient did perfectly well after the operation.

* The number refers to the Table of forty consecutive vaginal hysterectomies performed for cancer (p. 224).

Subsequent History.—I saw this patient on December 14th, 1894. Since the operation she had had no discharge whatever till about two months ago. Then a little yellow discharge began, which became blood-stained shortly afterwards. She had had no pain, and did not

Fig. 42.—The uterus removed in Case 6,* and laid open. The growth occupies the whole of the cervical canal, and reaches the internal os.

think she had lost flesh. On examination on that date the following note was made:—

"The vagina is a *cul de sac* an inch deep, with an

* The number refers to the Table of forty consecutive vaginal hysterectomies performed for cancer (p. 224).

aperture at the top. No growth or abnormal condition is felt in that *cul de sac*. *Per rectum*, however, a fixed mass the size of a Tangerine orange is to be felt occupying the region above the vaginal *cul de sac*, no doubt due to recurrence of the disease in the neighbourhood of the scar."

February 5th, 1895.—I saw her on this date. She looked fairly well, but the blood-stained discharge had continued.

On March 19th, 1895, I saw her again. The discharge had continued; the physical signs were the same as on the last occasion. She had begun to complain of pain in the "stomach" and "back" at intervals.

The last time I saw the patient was on July 25th, 1895. The red discharge had continued as before; it was more profuse. She had had slight attacks of diarrhœa.

I heard that she died not very long afterwards.

CASE 39.*—

Mrs. R., a married woman, aged thirty-six, was admitted into the London Hospital under my care on February 4th, 1899.

Previous History.—She had had eight children, the last eleven months prior to admission. She had also had two miscarriages.

Present Illness.—Her chief symptom had been a red vaginal discharge, which had been present fifteen months. At times the bleeding had been severe. She had also had pain in the iliac regions for ten months. She was suckling at the time of her admission.

On February 9th, 1899, the following note was made:—

"On the vaginal portion of the cervix is a raised, slightly irregular, crescentic growth. It involves chiefly the left side of the vaginal portion immediately adjacent to the external os and about two-thirds of the posterior lip. It has an overhanging margin. About the middle of the anterior lip a little nodule, the size of a shot, is felt under the mucous membrane, the surface of which over the nodule is healthy. There is another smaller

* The number refers to the Table of forty consecutive vaginal hysterectomies performed for cancer (p. 224).

nodule to the left of the first. There are two nodules to the right under the mucous membrane, of a similar character. The sound pressed against the crescentic growth penetrates its substance to the depth of an inch. The uterus is freely movable, and its body is not enlarged. There is no evidence that the growth has extended beyond the limits of the cervix, except the presence of the nodules mentioned."

There was a lump the size of a walnut under the posterior vaginal wall, about an inch from the vaginal orifice, which I believed to be a fibroid of the vagina.

Operation, February 16th, 1899.—Vaginal hysterectomy was performed in the same way as in the preceding cases, Paquelin's cautery being used to sear the cut edges of the vaginal wall. Forceps were used to secure the vessels: these were removed on the 20th. Slight bleeding occurred as they were being removed. The region of the wound was then exposed with Sims's speculum. One small bleeding point was seen, to which a pair of Wells's small pressure forceps was applied. This pair of forceps was removed two days later. No further bleeding occurred. The vaginal tumour was not removed.

The temperature only rose above 99½° on two occasions. One was on the evening of the 20th, and the other on the evening of the 22nd, when the temperature was 100·2° and 100° respectively.

The patient went home on March 15th.

A portion of the growth was sent to the Clinical Research Association for microscopic examination, and reported on by Mr. Targett as follows:

"The cervix of J. R. is very extensively invaded with squamous-celled epithelioma. Some of the epithelial processes are large, and the central cells have undergone granular degeneration. In others there are small cell-nests."

After-History.—This patient was quite well on July 26th, 1900, more than two years after the operation. About Christmas, 1901, she had retention of urine, and she was readmitted into the London Hospital early in 1902.

There was a hard cartilaginous mass under the urethra. The vaginal mucous membrane over the mass was normal. A portion of this mass was removed, and found to be squamous epithelioma. At the region of the scar at the top of the vagina were felt other nodules, no doubt due to recurrence of the disease; but there was no ulceration over them, and the patient had noticed no discharge. The retention of urine persisted, and a catheter had to be regularly passed. Contrary to the usual experience when recurrence takes place, this patient retained at the time mentioned the appearance of good health.

RECURRENCE DURING THE FOURTH YEAR (No. 27).

CASE 27.*—

A. W., aged forty-five, was admitted into the London Hospital under my care on August 29th, 1896.

Previous History.—She had been married twenty-four years, and had had seven children, the last one nine years previously. She had had no miscarriages. All the children had died except the second, which was alive, but not very strong. The longest time any of the others lived was seven months. She had never had instruments used at any of her confinements. She had always enjoyed good health till recently, and up to the date of her admission had worked at a sewing machine. The only previous illness of which she gave any account was an attack of very bad sore throat about three years ago. She attended as an out-patient at the London Hospital at that time. The attack of sore throat lasted about three months, but at the time she had no rash, nor any sore place on any part of her body. Since then she had been more or less in bad health.

Menstruation.—The catamenia began between fifteen and sixteen, and were regular every four weeks, lasting seven days. The flow was always profuse, but she never had any pain with it.

* The number refers to the Table of forty consecutive vaginal hysterectomies performed for cancer (p. 224).

History of the Present Illness.—About three months ago (that is, May, 1896) she noticed that she began to lose some blood almost every day. Sometimes the loss was more profuse than at other times. It was especially so in the evening after she had finished her work. When the periods came on she noticed that the flow was excessive. Sometimes she had had a dull aching kind of pain in the lower abdomen, and latterly she had lost flesh very much. She noticed that any act of straining brought on a discharge of blood. There had been no pain on passing water. The bowels had been more or less constipated. Sometimes she had had a "swimming feeling in the head." Latterly she had been several times sick in the morning, but she did not think she was pregnant.

State on Admission.—She did not look very thin, but she was anæmic. Temperature and pulse normal.

On abdominal examination nothing abnormal was felt.

On vaginal examination the uterus was retroverted, but could be easily anteverted bi-manually. It was freely movable, and the body of it not appreciably enlarged. Projecting from the posterior lip of the cervix was an irregular growth, somewhat nodular in form, and situated rather to the left of the middle line. It was about the size of a cobnut; it was dark red in colour. The point of the sound pressed firmly against the surface readily penetrated its substance. The anterior lip of the cervix seemed quite healthy. There was no evidence that the growth had extended beyond the limits of the uterus. The nodule described bled readily on touching it.

She was carefully examined under an anæsthetic on September 1st, and the result of the previous examination was confirmed.

Operation, September 7th, 1896.—The patient was anæsthetised with the A.C.E. mixture. After the vagina had been thoroughly douched with perchloride lotion (1 in 1,000) the cervix was drawn down to the outlet of the vulva, and the anterior vaginal fornix was incised transversely in the usual way. The bladder was then separated from the anterior aspect of the cervix as high as the internal os uteri. The posterior vaginal wall was incised

similarly. Douglas's pouch was opened, and the cervix cleared to the same level posteriorly. The lateral attachments of the cervix were secured with pressure forceps and divided.

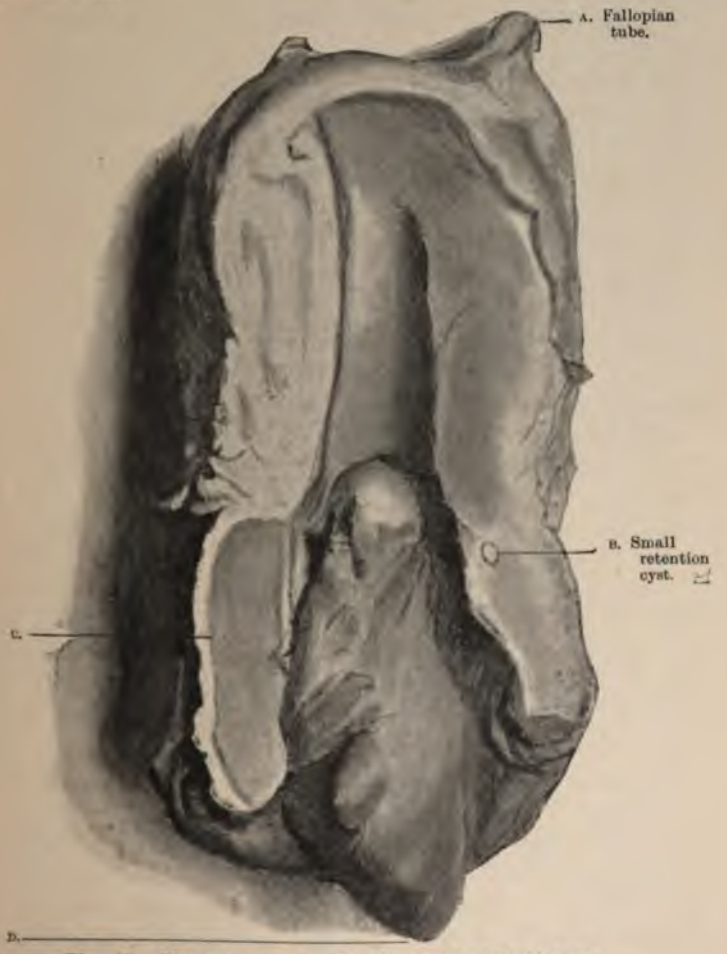


Fig. 43.—The uterus removed in Case 27,* and laid open.

C shows on the cut wall of the cervix the margin of the malignant infiltration, which is very extensive.

D. The pointed extremity of the malignant nodule, which, before the cervix was removed and laid open, gave one the impression that the growth was of limited extent. After opening the cervix, D is seen to be merely the lower end of an elongated malignant growth extending to the internal os, and indeed a little above it.

* The number refers to the Table of forty consecutive vaginal hysterectomies performed for cancer (p. 224).

My expectation when starting the operation was that probably the supra-vaginal amputation of the cervix would be sufficient, and accordingly at this stage the cervix was cut off with Paquelin's cautery at the level of the internal os. On opening the cervix, however, it appeared that the growth extended upwards as far as the line of section, and I therefore proceeded to remove the remainder of the uterus, the patient's consent having been previously obtained for this operation, if it should be found to be necessary. The broad ligaments were secured with large pressure forceps and divided, and the uterus removed. The vagina was packed with iodoform gauze, the upper part of which projected into Douglas's pouch.

During the week following the operation the patient's pulse varied from 84 to 108; generally it was about 90. The temperature reached 101° on the 8th, 101·8° on the 9th, 101° on the 13th, 14th, and 15th. During the second week the highest temperature was 100·6°.

The forceps and gauze were removed on the fourth day.

The patient's weight on leaving the Hospital was 9 st. 13 lb.

She made a thoroughly good recovery, and went home on October 3rd.

After-History.—This patient came up to the London Hospital, and was examined on March 11th, 1897—that is to say, six months after the operation. She was then quite well, and there was no sign of recurrence. After that I lost sight of her for a considerable time, all efforts to trace her having failed.

On February 26th, 1900, however (that is, about three years and a half after the operation), she came up to the Hospital. She was then very ill. She said that till four months previously she had remained in good health, and free from any bleeding, or other local symptom, but that from that time her health had gradually failed. She suffered from increasing weakness, severe pain in the lower part of the abdomen, and a red vaginal discharge.

On abdominal examination there was a large, hard, irregular mass felt across the hypogastric region.

The glands in the right groin were much enlarged.

On vaginal examination there was a board-like feeling in the neighbourhood of the scar, in which there was evident recurrence. In fact, there was a malignant ulcer in that situation which bled readily on examination.

This case is in some ways rather a disappointing one, because, as far as the naked eye could decide at the time of the operation, the nodule in the posterior lip of the cervix seemed to be quite limited, sharply defined, and the lines of section made in the course of the removal of the uterus were, in comparison to many other cases, at a considerable distance from the edge of the growth. Yet on further examination of the specimen with the microscope, it was evident that the disease had spread deeply into the substance of the cervix, so that it is not a matter for surprise that the disease should have returned (see Fig. 43). From the history which she gave it seems fairly certain that she had at least three complete years of freedom from any symptoms of the disease after the operation, and that recurrence took place during the fourth year.

CASES WHICH DIED (Nos. 2, 13, 18, 34).

CASE 2.*—

M. M., aged sixty-two, was admitted into the London Hospital under my care on September 29th, 1886. She had been married thirty-six years, but had been a widow for the last twelve. She had had six children, the last about thirty years ago, and no miscarriages.

History of the Present Illness.—For years she had been too weak and ill to attempt to do any work. She had had a yellow discharge since the menopause, twenty-two years ago. Recently, for a few weeks, she had complained of a "dreadful forcing pain" at the lower part of the abdomen, and also in the back, and of a vaginal discharge of blood at the same time: also of great difficulty in passing water, with frequent desire to do so. For the last eight months she said she had been losing

* The number refers to the Table of forty consecutive vaginal hysterectomies performed for cancer (p. 224).

flesh. She had lived all her life in London, and had always been temperate. There was no family history of cancer.

On September 30th, 1886, she was examined under anæsthesia. A conical excavation was found in the situation of the cervix, the walls of the ulcer being formed by hard tissue, which bled readily on examination. The uterus itself was freely movable. On the posterior vaginal wall, extending downwards for an inch or so, there was a rough area, on which were minute prominences, each the size of a pin's head.

Operation, October 4th, 1886.—The cervix was removed by the supra-vaginal amputation. The portion removed measured three-quarters of an inch in length. This really included not only the whole cervix, but a small part of the body of the uterus as well.

On examining the specimen removed it was thought that the line of section was not sufficiently high above the point to which the disease had extended. It should also be mentioned that when the cervix was cut away a sudden gush of horribly offensive pus occurred, evidently owing to the presence of the condition known as *pyometra*. It was decided to remove the remainder of the uterus, which was very small. Ligatures were used to secure the broad ligaments, and the opening in the peritoneum was closed with one silver suture. For about thirty-six hours after the operation the patient seemed to be doing well; then the heart began to fail, the breathing became more and more rapid, and she died on October 6th at midday.

At the post-mortem examination the heart was found to be fatty; the lungs were intensely congested; there was no general peritonitis. The intestines seemed distended. A coil of small intestine lay over the seat of the wound, its peritoneal surface deeply injected. Looked at from above, the edges of the wound at the bottom of Douglas's pouch were not in apposition, except where the wire suture was put in. It appeared to be a case where the patient, who was a feeble woman of sixty-two, could not stand so severe an operation as vaginal hysterectomy.

CASE 13.*—

This patient (Mrs. C.) was forty-eight years of age. She had had a large family, but some years had elapsed since the date of the last confinement.

History of the Present Illness.—She had suffered from intermenstrual hæmorrhage for three months. There was an old laceration of the cervix on the left side, running up to the vaginal reflection. The cervix was infiltrated with a malignant growth, having the usual physical characteristics of such growths, but there was no projecting growth of any kind. There was a band of thickening on the left side of the cervix running directly outwards from the old laceration, which prevented the uterus being drawn down to anything like the usual extent.

I started intending to perform the supra-vaginal amputation of the cervix. I separated the bladder from the supra-vaginal cervix in the usual way, and made the incisions in the other vaginal fornices as already described in the supra-vaginal amputation of the cervix. The way the left side of the cervix was, as it were, tethered, caused great difficulty in obtaining access to the tissue just outside the cervix in that direction, and while I was endeavouring to secure the attachment there, and divide it, a large vessel—probably, I think, the uterine artery itself—was torn across. This resulted, of course, in profuse hæmorrhage, and the bleeding point retracted out of reach, and all efforts to secure it for the time were ineffectual. When it was evident that it would be impossible to secure this vessel as matters stood, I, as rapidly as possible, removed the whole of the uterus. The vessel was at last secured, but not till the patient had lost a practically fatal quantity of blood. She just recovered consciousness, but died two hours after the operation, no doubt on account of the hæmorrhage. This operation occurred in February, 1894.

The case illustrated very well the danger to be faced in attempting either to perform the supra-vaginal amputation

* The number refers to the Table of forty consecutive vaginal hysterectomies performed for cancer (p. 224).

of the cervix, or vaginal hysterectomy, in cases where there is a deep laceration of the cervix, running right up to the vaginal reflection, with firm cicatricial tissue tying the uterus up towards the corresponding side of the pelvis. If one considers the anatomical relations for a moment, it will be evident that the uterine artery itself cannot be very far from the highest point of the gap in these cases of extensive laceration of the cervix. The case shows that there is a considerable danger of lacerating this vessel when the attempt is being made to free the cervix from the affected side. If that happens, the proximal end of the torn vessel may, as in this case, retract out of reach, and it may be impossible to secure it until a very large quantity of blood has been lost. In such a case in future, knowing the serious difficulty that must occur in any attempt to get the uterus—the mobility of which is so much interfered with—out by the vaginal route, I should much prefer to perform an abdominal pan-hysterectomy in the first instance. From the abdominal aspect, of course, there is no difficulty in securing the uterine artery. If, owing to the position of the growth on the cervix in any particular case, it seemed desirable to make the incisions into the vaginal fornices under the direction of the eye, the proper course would be to perform a combined operation—that is to say, first to make the incisions into the vaginal fornices from below, so that they may be sufficiently far from the growth, and then to complete the removal of the uterus by abdominal section.

Case 18.*—

This patient (E. R.), aged thirty-nine, was admitted into the London Hospital under my care on August 2nd, 1894. She complained of pain in the left side of the lower abdomen, shooting across the abdomen and "the stomach," and of a red discharge.

History of the Present Illness.—She was quite well till

* The number refers to the Table of forty consecutive vaginal hysterectomies performed for cancer (p. 224).

ten months before admission, when she was taken ill while pregnant, and miscarried at six and a half months of triplets. These were born alive, and lived two hours, and then all died. She convalesced rapidly after the miscarriage. The red discharge, however, following the miscarriage, never cleared off, and it had persisted up to the present time. For the last three weeks she had had gushes of water as well, but these were not offensive.

State on Admission.—The vaginal portion of the cervix was increased to the size of a lemon by the presence of a "cauliflower" growth, the edge of which was distinctly overhanging. The growth had all the usual characters found with a "cauliflower" excrescence. The uterus was freely movable, and could be drawn down to the outlet. The growth seemed to have spread to the vaginal wall slightly in front and to the left, but there was no evidence of any infiltration of the left broad ligament.

Operation, August 30th, 1894.—Vaginal hysterectomy was performed. Forceps were used to secure the vessels, and an iodoform gauze plug was used. I removed the forceps myself on September 1st (forty-eight hours after the operation). The gauze plug was removed first, then a vaginal douche of weak iodine water was given, then the forceps were removed, and another douche of iodine water was given afterwards. While one large pair of forceps was being taken off, the patient complained of severe pain in the abdomen, quite different from what she complained of when the other forceps were taken off, and quite different from anything she had experienced previously. Up to the time the forceps were taken off her condition had been perfectly satisfactory, but from the time that they were taken off she began to do badly, her pulse became frequent, the abdomen became distended and very tender, and she vomited frequently.

On September 4th the vomiting continued and became fæcal. The pulse then was 140, and the temperature only 99°. There was not much pain, but great restlessness.

On September 5th the condition was very much worse,

the pulse almost undistinguishable; the fæcal vomiting continued. She was extremely restless and much collapsed. The distension of the abdomen continued, and she died in the course of that day.

The patient obviously died of peritonitis, which appeared to me most likely to have been caused by some infection of the 'general peritoneal cavity when the forceps were being taken off. The region where the forceps are lying forty-eight hours after the operation is in a foul sloughy condition, and is, of course, at that time shut off by soft adhesions from the general cavity of the peritoneum. It would not be very difficult in taking off the forceps to cause some separation of these protecting adhesions, and so possibly infect the general cavity of the peritoneum itself. At all events, I believe that that was the cause of the fatal result in this particular case.

CASE 34.*—

Mrs. B., aged fifty-three, a tailoress, was admitted into the London Hospital under my care on September 16th, 1897.

Previous History.—She had been married thirty years, and had had seven children, the last twenty-three years ago, but no miscarriages. The menopause occurred eight years ago. As regards the family history, two brothers died of phthisis. She had had influenza four times.

History of the Present Illness.—She complained of having had a red vaginal discharge for six months. During three months it had been somewhat offensive. She had been wasting for about twelve months, but had had no pain.

Nothing abnormal was found on examining the abdomen.

On vaginal examination there was seen a considerable amount of prolapse of the uterus, and of both vaginal walls; so much so as to amount to the condition known as incomplete *procidentia uteri*, the vaginal cervix and both

* The number refers to the Table of forty consecutive vaginal hysterectomies performed for cancer (p. 224).

vaginal walls protruding when the patient strained. The anterior lip of the cervix was markedly elongated, and on it was situated a raised patch the size of half-a-crown, evidently malignant. The patch terminated towards the anterior fornix by a sharp edge distinctly overhanging, so as to resemble closely the "inverted mushroom" type. The growth bled readily on touching it. The uterus was freely movable, and there was no evidence of any extension to the connective tissue of the broad ligaments, or elsewhere.

I may say here that this is the only case in which I have seen malignant disease of the cervix in a procident uterus.

General Condition.—The patient had marked loss of memory, which she said came on after the influenza. She said also that she had lost all power in the right arm and right leg. Her pupils reacted to light, but not to accommodation. The knee-jerks were present. She had a blind external *fistula in ano*. A probe passed into this for one inch and a half.

Operation, September 23*rd*, 1897.—Vaginal hysterectomy was performed in the usual way. The operation was exceedingly easy owing to the existing prolapse. The forceps and gauze were removed on September 28th.

The patient's mental condition was on that date distinctly worse. She did not answer coherently when spoken to, and seemed to have lost her memory. This state of things continued, and by October 1st she had complete incontinence of urine and fæces. Up to this her highest temperature had been 100° and 101°. On October 4th her temperature rose to 103°. Her breathing became quick and short, and she had a cough. Her pulse was 132. Râles were present all over both lungs. No dulness or tubular breathing was discovered. Her mental condition remained as before.

On October 6th her temperature was down to normal, the respiration was slower, the cough less, and the patient seemed better in every way, except that she still lay in an apathetic condition, and the incontinence of urine and fæces continued. She improved for the following t[illegible]

days; then (on October 9th) her temperature again began to rise, her breathing became quick, and the cough frequent, and there were signs of consolidation over the upper lobe of the right lung.

The patient's condition gradually became worse, the physical signs increased in the lungs, tubular breathing over the right upper lobe was found; there were also signs of bronchitis and œdema elsewhere. She became comatose, and died on October 11th.

A post-mortem examination was made.

Lungs.—The right upper lobe was solid, and sank in water. Pus in the small tubes of the lower lobe. Of the left lung the upper lobe was slightly œdematous.

Kidneys were slightly granular, and there was a cyst in the left kidney the size of a small hen's egg.

Liver was fatty.

The heart was normal.

As regards the pelvic peritoneum, there was no peritonitis. The omentum was adherent in places in Douglas's pouch; the uterine appendages were healthy; the surface of the pelvic peritoneum was shining and healthy.

The post-mortem examination was made by my colleague Dr. Schorstein, who was of opinion that the pneumonia was not septic.

TABLE III.—Supra-Vaginal Amputations of the Cervix for Cancer (Thirty-three Consecutive Cases).

Name.	Date of Operation.	Age.	Complete or Incomplete.	Condition.	Children.	Stage of Disease.	After-History Remarks.
1.	July 27th, 1885	29	Complete	——	——	Moderately advanced	Remained well for six months, then recurrence took place in the pelvis.
2.	Aug. 6th, 1885	43	Incomplete	——	——	Considerably advanced	——
3. E. H.	Feb. 12th, 1886	41	Complete	Married (twice)	2	Early; small papillary growth on vaginal portion	Quite well Jan. 24th, 1888. Not seen or heard of since.
4. E. L.	July 20th, 1886	33	Complete	Married	6 (1 ab.)	Considerably advanced; deep conical ulcer	Remained well for nearly twelve months; then recurrence took place in the pelvis at some distance from the stump.
5. E. M.	Jan. 7th, 1887	39	Incomplete	Married	1	Moderately advanced	——
6. F. P.	March 17th, 1887	42	Complete	Married	0	Early; shallow ulcer on vaginal portion; squamous epithelioma. See Clinical Research Association's report on growth in full notes of this case	Quite well at the present time, July 12th, 1902. See full notes of the case. The interval here since the operation is over fifteen years.
7. S. G.	April 5th, 1887	51	Complete	Married	——	Moderately advanced	Well for about six months; then recurrence in the stump.
8. A. I.	Sept. 15th, 1887	52	Complete	——	——	Moderately advanced	Remained well and free from recurrence for nine months; then recurrence in stump.
9. Miss E. ...	Dec. 6th, 1887	65	Complete	——	——	Large soft brittle growth protruding from os uteri, a little way up cervical canal	Remained well for more than two years; recurrence about six months later.

TABLE III.—Supra-Vaginal Amputations of the Cervix for Cancer—*continued.*

Name.	Date of Operation.	Age.	Complete or Incomplete.	Condition.	Children.	Stage of Disease.	Remarks.
10. L. E. M. ...	Jan. 16th, 1888	39	Complete; was four months pregnant on admission; abortion induced; supra-vaginal amputation done eighteen days later	Married	7 (1 miscarriage)	Considerably advanced; large "cauliflower," chiefly affecting posterior lip	Never examined after leaving hospital. I heard she died in a fainting fit a few months after the operation.
11. Mrs. B. ...	April 17th, 1888	39	Apparently complete; a previous operation had been done before by another practitioner	Married	——	Apparently fairly early	Recurrence took place in about six months.
12. M. A. C. ...	May 31st, 1888	42	Complete	Married	2	Moderately advanced; soft "cauliflower" growth on posterior lip of cervix; squamous epithelioma. See Clinical Research Association's report in full notes of case	I last examined her at my house on April 2nd, 1900, when there was no sign of recurrence—that is to say, she was free from recurrence nearly twelve years after the operation. I heard recently (April, 1902) of her death, the cause of which was either cancer of the liver or cirrhosis.
13. Mrs. C. ...	Sept. 22nd, 1888	32	Apparently complete; the operation done nine weeks after a confinement at term; symptoms had been present during pregnancy	——	——	Considerably advanced; large mushroom-shaped growth, chiefly involving anterior lip	Recurrence in the stump in three months.
14. E. P.	March 28th, 1889	37	Complete	Married	2	Advanced	Well three months after the operation. Not seen since.

							ing posterior lip	
16.	E. A. ...	...	Aug. 26th, 1889	40	Complete; was three months pregnant at time of operation; miscarried two days after it; Douglas's pouch slightly opened; cervix cut off with the cautery	——	——	Rather advanced; squamous epithelioma. See Clinical Research Association's report in full notes	Last seen and examined at the London Hospital, Nov. 5th, 1896. No sign of recurrence then—*i.e.* seven years after the operation. Then changed her address, and I never saw her, or heard of her since.
17.	Mrs. B.	...	Feb. 18th, 1890	53	Complete	Married	——	Moderately advanced; "cauliflower" growth size of half a walnut springing from right of cervix just within os uteri; columnar-celled carcinoma. See Clinical Research Association's report in full notes	I last saw her just after she had been visiting one of the sisters at the London Hospital on June 1st, 1895. The sister in question told me she was then quite well. Interval since the operation over five years. Heard from her by letter April 28th, 1902, that she has had no return of symptoms, and is in good health. Interval over twelve years.
18.	S. S. ...	...	May 7th, 1891	38	Complete	——	——	Moderately advanced; malignant adenoma; anterior vaginal wall slightly infiltrated	Well for more than a year; then recurrence in the stump.
19.	M. A. K.	...	Feb. 18th, 1892	31	Incomplete	Married	8	——	——
20.	Mrs. K.	...	Jan. 29th, 1893	37	Complete	Married	——	"Cauliflower"; moderately advanced; squamous epithelioma. See Clinical Research Association's report in full notes	Well Feb., 1902—*i.e.* nine years since the operation.
21.	Mrs. O.	...	Feb. 8th, 1893	60	Complete	Married	——	Nodular form; early	Am doubtful as to the malignancy of the condition in this case.

TABLE III.—Supra-Vaginal Amputations of the Cervix for Cancer—*continued.*

Name.	Date of Operation.	Age.	Complete or Incomplete.	Condition.	Children.	Stage of Disease.	Remarks.
10. L. E. M. ...	Jan. 16th, 1888	39	Complete; was four months pregnant on admission; abortion induced; supra-vaginal amputation done eighteen days later	Married	7 (1 miscarriage)	Considerably advanced; large "cauliflower," chiefly affecting posterior lip	Never examined after leaving hospital. I heard she died in a fainting fit a few months after the operation.
11. Mrs. B. ...	April 17th, 1888	39	Apparently complete; a previous operation had been done before by another practitioner	Married	——	Apparently fairly early	Recurrence took place in about six months.
12. M. A. C. ...	May 31st, 1888	42	Complete	Married	2	Moderately advanced; soft "cauliflower" growth on posterior lip of cervix; squamous epithelioma. See Clinical Research Association's report in full notes of case	I last examined her at my house on April 2nd, 1900, when there was no sign of recurrence—that is to say, she was free from recurrence nearly twelve years after the operation. I heard recently (April, 1902) of her death, the cause of which was either cancer of the liver or cirrhosis.
13. Mrs. C. ...	Sept. 22nd, 1888	32	Apparently complete; the operation done nine weeks after a confinement at term; symptoms had been present during pregnancy	——	——	Considerably advanced; large mushroom-shaped growth, chiefly involving anterior lip	Recurrence in the stump in three months.
14. E. P.	March 28th, 1889	37	Complete	Married	2	Advanced	Well three months after the operation. Not seen since.

15. H. H. ...	...	May 2nd, 1889	31	Complete	Married	0	Moderately advanced; soft growth, chiefly affecting posterior lip	Not seen since leaving hospital.
16. E. A. ...	...	Aug. 26th, 1889	40	Complete; was three months pregnant at time of operation; miscarried two days after it; Douglas's pouch slightly opened; cervix cut off with the cautery	— —	——	Rather advanced; squamous epithelioma. See Clinical Research Association's report in full notes	Last seen and examined at the London Hospital, Nov. 5th, 1896. No sign of recurrence then—*i.e.* seven years after the operation. Then changed her address, and I never saw her, or heard of her since.
17. Mrs. B.	...	Feb. 18th, 1890	53	Complete	Married	——	Moderately advanced; "cauliflower" growth size of half a walnut springing from right of cervix just within os uteri; columnar-celled carcinoma. See Clinical Research Association's report in full notes	I last saw her just after she had been visiting one of the sisters at the London Hospital on June 1st, 1895. The sister in question told me she was then quite well. Interval since the operation over five years. Heard from her by letter April 28th, 1902, that she has had no return of symptoms, and is in good health. Interval over twelve years.
18. S. S. ...	...	May 7th, 1891	38	Complete	——	——	Moderately advanced; malignant adenoma; anterior vaginal wall slightly infiltrated	Well for more than a year; then recurrence in the stump.
19. M. A. K.	...	Feb. 18th, 1892	31	Incomplete	Married	8	——	——
20. Mrs. K.	...	Jan. 29th, 1893	37	Complete	Married	——	"Cauliflower"; moderately advanced; squamous epithelioma. See Clinical Research Association's report in full notes	Well Feb., 1902—*i.e.* nine years since the operation.
21. Mrs. O.	...	Feb. 8th, 1893	60	Complete	Married	——	Nodular form; early	Am doubtful as to the malignancy of the condition in this case.

TABLE IV.—**Forty Consecutive Cases of Vaginal Hysterectomy**

No.	Name.	Disease.	Date of operation.	Place.	Immediate result.
1	Mrs. E. ..	Cancer of body	March 1st, 1886	London Hospital	Recovered
2	Mrs. M. M.	Cancer of cervix	Oct. 4th, 1886	London Hospital	Died 48 hours after operation
3	Mrs. W	Cancer of body	Nov. 7th, 1889	London Hospital	Recovered
4	Mrs. P.	Cancer of cervix	Oct. 26th, 1890	London Hospital	Recovered
5	Mrs. J. T.	Cancer of body	March 17th, 1892	London Hospital	Recovered

26. C. J.	Jan. 10th, 1895	46	Complete	Married	2	Conical ulcer	Examined last at her own home, Feb. 25th, 1896. She was confined to bed on account of her chest. Dr. Hadley saw her with me, and found she had fibroid phthisis. There was no recurrence of the cancer. Interval since the operation a little over a year.
27. E. F.	April 9th, 1896	25	——	Married	1 miscarriage	Large "cauliflower," involving the whole vaginal portion	Recurrence in three months.
28. M. B.	Oct. 8th, 1896	54	——	——	——	——	——
29. Mrs. H. ...	Oct. 11th, 1896	31	——	Married	2	Early, squamous-celled epithelioma. See Clinical Research Association's report in full notes.	Examined her at my house May 5th, 1902. No sign of recurrence. Interval since the operation five years and a half.
30. M. H.	Nov. 5th, 1896	40	——	Married	12	——	Recurrence early in 1897.
31. R. C.	July 15th, 1897	40	——	Married	7	——	Remained free from recurrence till her death, on June 6th, 1901.
32. S. G. ...	Oct. 18th, 1897	48	——	Married	5	——	——
33. Mrs. D. ...	March 26th, 1898	42	Complete	Married	2	Early, squamous-celled epithelioma. See Clinical Research Association's report in full notes.	Last examined at my house April 11th, 1902. No sign of recurrence.

TABLE IV.—Forty Consecutive Cases of Vaginal Hysterectomy

No.	Name.	Disease.	Date of operation.	Place.	Immediate res
6	Mrs. B. ...	Cancer of cervix	June 16th, 1892	Private (with Dr. Russell, of Upton Park)	Recovered
7	Mrs. D. ...	Cancer of body	Feb. 1st, 1893	Private (with Dr. Stott, of Highgate, and Dr. Godson)	Recovere
8	Mrs. S. ...	Cancer of body	June 8th, 1893	London Hospital; patient sent to me by Dr. Best, of Dover	Recovere
9	Mrs. M. ...	Cancer of cervix	July 20th, 1893	London Hospital	Recovere
10	Mrs. C. ...	Cancer of cervix	Aug. 4th, 1893	London Hospital	Recovere
11	Mrs. T. ...	Cancer of body	Aug. 21st, 1893	London Hospital	Recovere
12	Mrs. K. ...	Cancer of cervix	Aug. 28th, 1893	London Hospital	Recovered
13	Mrs. C. ...	Cancer of cervix	Feb. 1st, 1894	Private	Died

performed for Cancer of the Uterus—*continued.*

Remarks.	Age.	Remote results.	No.
Little of the growth to be seen at the os uteri. The whole of the cervical canal up to the internal os was affected by the malignant growth—the cervix, in fact, converted into a thin shell, lined with the growth	59	Good health for two years and a half after operation; then recurrence took place in the scar. (Recurrence during the third year.)	6
An example of "hard" cancer of the body of the uterus—the rarer variety	53	Still quite well, more than nine years since the operation.	7
An example of "hard" cancer of the body of the uterus	57	Still remains quite well. Last examined at the London Hospital July 19th, 1900. No sign of recurrence. I had a letter from her in August, 1902, saying she was quite well.	8
——	35	Remained well till the autumn of 1894—*i.e.* for a little more than a year after operation; then recurrence took place. (Recurrence during the second year.)	9
——	38	Died with recurrence Feb. 23rd, 1895, eighteen months after operation. (Recurrence during the second year.)	10
Soft papillary growth. Perinæum had to be incised. After one side of uterus was freed, it was brought into the vagina by forceps like small midwifery forceps	54	Came up to the Hospital and examined Oct. 11th, 1894, a year after operation. Quite well, and no sign of recurrence. All efforts to trace her since failed, as she had left the former address.	11
Soft mushroom-like growth affecting both lips. I thought at the time of operation that the left broad ligament and left utero-sacral ligament were somewhat infiltrated, and that probably therefore removal of the uterus had not removed all the diseased tissue	42	She was seen and examined on Nov. 30th, 1893, when there was distinct evidence of recurrence in the top of the vagina. I think most probably that the whole of the cancerous tissue had not been removed by the hysterectomy. (Recurrence during the first year.)	12
Deep laceration of cervix left side, with firm cicatricial band of tissue running from it. Impossible to draw uterus down properly; a large vessel, probably the uterine artery, retracted out of reach, and though it was ultimately secured, a fatal amount of blood had been lost before this could be done	48	——	13

TABLE IV.—**Forty Consecutive Cases of Vaginal Hysterectomy**

No.	Name.	Disease.	Date of operation.	Place.	Immediate result.
14	Mrs. F. ...	Cancer of cervix	Feb. 22nd, 1894	London Hospital	Recovered
15	Mrs. J. ...	Cancer of cervix	Feb. 27th, 1894	Private (with Dr. Howse, then of Barking Road, E., now of Reading)	Recovered
16	Mrs. B. ...	Cancer of cervix	Aug. 13th, 1894	Private (sent to me by Sir J. Williams)	Recovered
17	Mrs. S. ...	Cancer of cervix	Aug. 16th, 1894	London Hospital	Recovered
18	Mrs. R. ...	Cancer of cervix	Aug. 30th, 1894	London Hospital	Died on the seventh day of peritonitis
19	Mrs. S. ...	Cancer of cervix	Oct. 13th, 1894	London Hospital (sent to me by Dr. Howse, then of Barking Road, now of Reading)	Recovered
20	Mrs. N. ...	Cancer of cervix	Dec. 6th, 1894	London Hospital (sent to me by Dr. Winn, of Hackney)	Recovered

performed for Cancer of the Uterus—*continued.*

Remarks.	Age.	Remote results.	No.
A case of large "cauliflower" growth	52	Recurrence took place in Aug., 1894. (Recurrence during the first year.)	14
An extensive "cauliflower" growth. It was not till the patient was under an anæsthetic that the operation seemed worth trying	57	This patient remained free from any sign of recurrence till she died in Feb., 1900. Dr. Howse saw her several times in her last illness. She died of phthisis.	15
An example of large "cauliflower" growth of the cervix, and there was a round nodule, the size of a cobnut, in the left broad ligament. As the uterus could be easily drawn down, it seemed worth trying whether removal of the uterus and also of the nodule would be effectual	43	I believe recurrence took place not very long after the operation, but I had not the opportunity of examining her after she left London. (Recurrence during the first year.)	16
An example of the nodular and infiltrating form of the disease, the whole cervix being much thickened by it. Little or no growth projecting from the vaginal portion. At the operation, though the uterus was removed, I felt sure some infiltrated tissue was left, especially at the base of the bladder	32	(Recurrence during the first year.)	17
An example of a large "cauliflower" growth. This patient was doing quite well till the pressure forceps were removed at the end of the second day; while this was being done, she complained of sudden severe pain, and within a few hours symptoms of peritonitis appeared. I believe in removing the forceps the general cavity of the peritoneum was reopened by breaking down adhesions, and so infection occurred. Since this case I always leave on the forceps at least three days, and often four	39	— —.	18
Cancer involving the substance of the cervix; little projecting growth. It is interesting to know that the patient had been told at another hospital that the case was too far advanced for operation to be advisable	52	Has been seen at frequent intervals at the Hospital since operation, and has remained quite well. Last examined Feb. 27th, 1902.	19
The removal of the uterus probably did not remove all the tissue infiltrated by the malignant growth	45	(Recurrence during the first year.)	20

TABLE IV.—Forty Consecutive Cases of Vaginal Hysterectomy

No.	Name.	Disease.	Date of operation.	Place.	Immediate result.
21	Mrs. G. ...	Cancer of cervix	Feb. 14th, 1895	London Hospital (sent to me by Dr. Cory, of Bournemouth)	Recovered
22	Mrs. de B.	Cancer of cervix	April 25th, 1895	London Hospital (sent to me by Dr. Cursham Corner)	Recovered
23	Mrs. H. ...	Cancer of cervix	June 1st, 1895	Fitzroy House (sent to me by Dr. Garry Simpson, of Acton)	Recovered
24	Mrs. H. ...	Cancer of body	Aug. 30th, 1895	London Hospital	Recovered
25	Mrs. T. ...	Primary tubercular ulceration of cervix; believed at the time of operation to be cancer of the cervix	Jan. 30th, 1896	London Hospital (sent to me by Dr. Haslip and Dr. Howell)	Recovered
26	Mrs. S. ...	Cancer of cervix	April 16th, 1896	London Hospital (sent to me by Dr. Dunlop, of Aveley, Purfleet, Essex)	Recovered

performed for Cancer of the Uterus—*continued.*

Remarks.	Age.	Remote results.	No.
Large "cauliflower" growth	26	Recurrence took place within a few weeks of the operation. (Recurrence during the first year.)	21
Large "cauliflower" growth, especially affecting the posterior lip of the cervix. Was doubtful at time of operation if all infiltrated tissue was removed	35	Seen and examined on several occasions, the last time on June 16th, 1898, when the scar was quite healthy, and no sign of recurrence anywhere. Heard that she went to America, and died either at the end of 1898 or early in 1899; no information as to cause of death. She was therefore known to be quite well over three years after operation, and if recurrence had been the cause of death, it is very improbable that there should be no sign of it on June 16th, 1898, if she died a few months after. It seems at least equally likely that she may have died from some independent cause.	22
Large "cauliflower" growth, the part of the growth in the cervical canal just reaching internal os. There was a very large prometra, the pus being horribly offensive	55	She has remained well since the operation. She has gone to Australia, but writes to me on each anniversary of her operation. The last letter, dated June 24th, 1902, seven years after the operation, says she was then quite well.	23
A large papillary growth projected into the cavity of the endometrium	48	Well May 18th, 1897; also heard from her in May, 1900, that she was quite well.	24
——	36	Heard she was quite well Nov., 1899, when I operated on a friend of hers. Also well Nov. 20th, 1901.	25
Large "cauliflower" growth of cervix	35	Seen and examined Jan. 11th, 1899. A granular mass size of raisin at upper part of vagina. Seen recently, the mass is just the same, and evidently not malignant. She was quite well. Also quite well March 7th, 1901, the date on which she was last examined at the London Hospital.	26

TABLE IV.—**Forty Consecutive Cases of Vaginal Hystere**

No.	Name.	Disease.	Date of operation.	Place.	Immed
27	Mrs. A. W.	Cancer of cervix	Sept. 7th, 1896	London Hospital	Rec
28	Mrs. I. ...	Cancer of body	Nov. 12th, 1896	London Hospital	Rec
29	Mrs. W. ...	Sarcoma of body	Feb. 11th, 1897	London Hospital	Rec
30	Mrs. E. S.	Cancer of cervix	June 10th, 1897	London Hospital	Rec
31	Mrs. B. ...	Cancer of cervix	Sept. 2nd, 1897	London Hospital (sent to me by Dr. Francis, of Leytonstone Road)	Rec
32	Mrs. B. ...	Cancer of body	Sept. 4th, 1897	Private (sent by Dr. Pope, of Kington, Hereford)	Rec
33	Mrs. R. ...	Cancer of cervix	Sept. 6th, 1897	London Hospital	Rec

performed for Cancer of the Uterus—*continued.*

Remarks.	Age.	Remote results.	No.
Nodule of malignant growth, size of cobnut or thereabouts, posterior lip; anterior lip appeared quite healthy. Supra-vaginal amputation done first: then, on slitting up cervix, the growth found to extend up to internal os, so body of uterus was then also removed	45	She was well up till about Oct., 1899, over three years since her operation. Then she began to fail, and came to the Hospital in Feb., 1900, with a mass the size of fœtal head in hypogastric region, fairly movable. Evident recurrence in the scar, and under the vaginal walls for some distance down. The glands in right groin much enlarged. She was looking cachectic. There was no projecting growth in region of scar, and only slight bleeding on examination. Very slight bleeding in Oct. or Nov., 1899; for one day was the only spontaneous bleeding. (Recurrence during fourth year.)	27
Secondary hæmorrhage in third week after operation, requiring application of Wells's forceps. Subsequent incontinence of urine, found, on filling the bladder, not to be due to any vesical fistula, but to a ureteral fistula. This persisted for some three or four months, and then healed spontaneously	49	Recurrence in the recto-vaginal septum during the first half of 1900. (Recurrence during the fourth year.)	28
See *Lond. Obstet. Trans.* for full report of case (Vol. XXVIII., p. 78)	24	Quite well Feb. 27th, 1902.	29
——	About 60	Recurrence took place about a year after the operation. (Recurrence during the first year.)	30
——	60	Recurrence took place, and she died May 19th, 1898. (Recurrence during the first year.)	31
There were some mucous polypi attached to the lower part of cervix. The malignant growth was in the body	61	Last examined July 7th, 1900. No sign of recurrence. Heard from her Oct. 4th, 1901, that she was quite well.	32
——	38	Well June 21st, 1900. Also seen and examined March 6th, 1902, at the London Hospital. Was then quite well	33

TABLE IV.—**Forty Consecutive Cases of Vaginal Hysterectom**

No.	Name.	Disease.	Date of operation.	Place.	Immediate re
34	Mrs. B. ...	Cancer of cervix	Sept. 23rd, 1897	London Hospital	Died three w after the op tion of pn monia
35	Mrs. H. ...	Cancer of cervix	Oct. 5th, 1897	Private (with Dr. McMullen, of Brixton)	Recovere
36	Mrs. E. M.	Cancer of cervix	Dec. 2nd, 1897	London Hospital (sent to me by Dr. Honnywill, of Sutton)	Recovere
37	Mrs. D. ...	Cancer of cervix	May 12th, 1898	London Hospital (sent to me by Dr. Jackson, of King's Lynn)	Recovere
38	Mrs. S. ...	Cancer of body	May 14th, 1898	Fitzroy House	Recovere
39	Mrs. R. ...	Cancer of cervix	Feb. 16th, 1899	London Hospital	Recovere
40	Mrs. E. K.	Cancer of cervix	April 27th, 1899	London Hospital	Recovere

performed for Cancer of the Uterus—*continued.*

Remarks.	Age.	Remote results.	No.
The only case I have had in which cancer of the cervix affected a procident uterus. This patient was mentally feeble, and very difficult to manage after the operation. At the post-mortem the pneumonia was said to be not septic, and the parts in the neighbourhood of Douglas's pouch were looking healthy.	53	——	34
A rather advanced case	52	Died of recurrence, July, 1898, the scar remaining unaffected to the last. (Recurrence during the first year.)	35
——	46	Examined and found quite well March 22nd, 1900. I heard, July, 1902, from Dr. Honnywill, that he had seen her recently, and that she was quite well.	36
A rather advanced case, with large conical ulcer	38	Recurrence took place March, 1899. She became much worse June 5th, 1899, and died soon after. (Recurrence during the first year.)	37
——	About 50	——	38
Bleeding on taking off forceps, requiring application of one pair more for another two days	36	Quite well July 26th, 1900. Recurrence early in 1902—*i.e.* in the third year.	39
The disease affected both the vaginal and supra-vaginal portions of the cervix	36	Recurrence early in 1900. (Recurrence during first year.)	40

CHAPTER VI.

CANCER OF THE BODY OF THE UTERUS.

CANCER of the body of the uterus may be either carcinoma, sarcoma, or adenoma. There is also the malignant disease known as "deciduoma malignum," which some authorities believe to be a disease *sui generis*, while others regard it as a sarcoma.

Primary Sarcoma of the Body of the Uterus is very much the rarest of the three. I have, however, myself met with two well-marked cases. One case of it came under my observation at the London Hospital in June, 1885, and the other in December, 1896. I will refer to the details of these two cases later on. Primary sarcoma of the body of the uterus being so rare, it will be desirable, in the first instance, to give an account of primary carcinoma of the body of the uterus.

Primary Carcinoma of the Body of the Uterus.—Primary carcinoma of the body of the uterus is a much rarer disease than carcinoma of the cervix. Its ætiology presents marked differences from that of carcinoma of the cervix. Thus, carcinoma beginning in the body of the uterus is almost exclusively a disease of advanced life; while, as we have seen, carcinoma of the cervix is by no means rare in women actually, or comparatively, young.

From about the age of forty-four onwards is the period of life at which primary carcinoma of the body of the uterus is likely to be met with. As a matter of experience, it will be found that almost all patients with this disease are between fifty and sixty years of age. So that if, in a patient of thirty-four years of age, certain

symptoms and physical signs arouse a suspicion in the mind of the practitioner that the case before him may be one of carcinoma of the body of the uterus, the mere fact that the age of the patient was only thirty-four would make it in the highest degree improbable that she was suffering from this disease. Whereas, on the other hand, if the symptoms and physical signs pointed to carcinoma of the cervix, the fact of the patient's age being only thirty-four would be quite in keeping with the presence of cancer.

In comparing a series of cases of primary carcinoma of the body of the uterus with a series of cases of carcinoma of the cervix, another important difference in the ætiology will be observed. A large majority of patients with carcinoma of the cervix will be found to have borne children, and a considerable number to have had large families; while in a series of cases of carcinoma of the body of the uterus there will be a large percentage of the patients who have been relatively sterile. For instance, a large proportion of them will be found to have either had no children at all, or, perhaps, one child only. The difference in this respect will be found to obtain when a comparison is made between *a considerable series* of cases of carcinoma of the cervix and carcinoma of the body of the uterus respectively.

It must not be forgotten, however, that, on the one hand, in a large series of cases of carcinoma of the cervix examples will be found here and there of patients who have had no children; while, on the other hand, in a large series of patients with carcinoma of the body of the uterus exceptional instances will be met with in which the patients have had several children. It may be said, in fact, that the ætiology of carcinoma of the body of the uterus has, as regards child-bearing, a good deal of resemblance to the ætiology of fibroid tumours of the uterus. In both diseases the patients may have had children. In both instances, if large numbers of cases are brought under consideration, there is a tendency evident in the direction of a relative sterility.

Symptoms.—In carcinoma of the body of the uterus

said that in primary carcinoma of the body of the uterus we generally expect to find it definitely enlarged, and the sound will most likely have passed 3¼ to 4 inches or more, thus confirming the result obtained by the bi-manual examination.

Sometimes, however, if by good fortune a patient with carcinoma of the body of the uterus has sought advice when the disease is in a very early stage, there may be little or no enlargement of the body of the uterus to be detected either by bi-manual examination, or with the sound. Another matter on which it is important to obtain information during the examination is as to the mobility of the uterus. So long as the disease is strictly limited to the tissues of the uterus itself, the uterus remains freely movable. The fact that the uterus is freely movable may be taken as evidence that the disease is still confined to the tissues of the uterus itself in cases of carcinoma of the body of the uterus much more absolutely than in cases of carcinoma of the cervix: for, as has been pointed out in discussing the physical signs of that condition, the uterus may seem to be freely movable when really the disease has extended from the cervix to the base of the bladder. So that, although it is freely movable, the disease has really spread beyond the uterus, and the case is not one suitable for radical operation. If in primary carcinoma of the body of the uterus, however, the uterus is freely movable, it may be concluded with considerable confidence that the case is still within reach of radical treatment.

Reviewing for a moment the symptoms and physical signs mentioned up to the present, we have a clinical picture somewhat as follows:—

An elderly woman of fifty-five or sixty gives a history of perhaps having had either no children, or one child thirty years ago. The menopause has occurred at the age of fifty, and since that time she has "seen nothing" till three months ago. The last three months she has noticed a continuous vaginal discharge, which has been frequently more or less blood-stained.

On examination some resistance is felt in the hypogastric region on deep pressure. On vaginal examination a little blood is found about the vaginal orifice, and through the speculum the same is seen in the os uteri. On bi-manual examination the body of the uterus is found to be definitely enlarged, and the sound passes three inches and a half. On withdrawing the sound there is a little gush of fresh blood.

With these symptoms and signs the case is almost certainly one of primary carcinoma of the body of the uterus; but before arriving at a definite conclusion the proper course will be to dilate the cervix to an extent sufficient to allow the finger to be passed into the body of the uterus. Now in an elderly patient such as we are supposed to be dealing with, unless, exceptionally, the cervix be somewhat dilated, it is absolutely necessary to dilate the cervix by means of tents. The patient should have an aperient and an enema, an aperient the night before, and an enema in the morning. She should have vaginal douches of 1 in 2,000 perchloride of mercury lotion for twenty-four hours beforehand twice or three times a day. Immediately before the insertion of the tent she should have a douche of 1 in 1,000 perchloride of mercury lotion. The tents that I am in the habit of using are solid laminaria tents, which have been rendered sterile by keeping them in a solution of perchloride of mercury in absolute alcohol (1 in 1,000) for several weeks. For the insertion of the tent the patient is put in the left lateral position, a Sims's speculum is passed, and the vaginal portion of the cervix exposed.

The exact direction of the cervical canal is ascertained by passing the sound as gently as possible, so that much bleeding may not be set up. A tent of a suitable size is then held in a pair of polypus forceps having a catch at the handles like Wells's pressure forceps; it is dipped in a solution of perchloride of mercury in glycerine (1 in 1,000), and gently passed till its upper end is well through the internal os. If there is room for more than one tent, another is passed; but in most of these cases one tent will probably be as much as the size of the internal

os uteri will admit. A piece of iodoform gauze is packed into the vagina so as to keep the tent, or tents, from slipping out. The speculum is then withdrawn. If a tent is put in at five o'clock in the afternoon, it will have expanded sufficiently for the purpose by ten o'clock the next morning. The dilatation of the cervix is then completed under anæsthesia by means of Hegar's dilators. The dilatation should be continued up to that size that will allow the finger to pass easily into the cavity of the body of the uterus.

This will generally be the case when No. 18 or No. 19 of Hegar's series has been passed. Without the preliminary use of tents it will more often than not be impossible to dilate the cervix to the extent in question with Hegar's dilators, without at least running the risk of causing deep laceration. The curette can of course be introduced with much less dilatation than is required to admit the finger. It is not, however, good practice to be content with using the curette; it may bring away a portion of the growth, or it may not.

The introduction of the finger into the cavity of the uterus alone enables the operator to obtain satisfactory information as to the condition of the endometrium.

During the dilatation the anterior lip of the cervix is of course held with a volsella. The forefinger of the right hand is now passed into the cavity of the body of the uterus, while the volsella on the anterior lip of the cervix is held with the left hand. The condition of the endometrium is then carefully observed.

Clinically in primary carcinoma of the body of the uterus there are four principal varieties to be distinguished. Two are soft, and two are hard.

1. **The Soft Papillary Growth.**

2. **The Soft Flat Growth raised above the General Surface, but not Papillary.**

3. **The Tuberose, somewhat Hard Growth.**

4. **A Hard, Irregularly Ulcerated Condition of the Endometrium.**

1. **The Soft Papillary Growth.**—Most frequently the malignant growth occurs in the form of a projecting papillary mass varying in size according to the duration of the disease. In a very early case the growth may only occupy an area equal to that of a two-shilling piece. In such an early case the growth will be raised above the general level of the mucous membrane to the extent perhaps only of one-sixteenth of an inch. In a case of

Fig. 44.—Primary carcinoma of the body of the uterus. The papillary soft growth in a very early stage—at an earlier stage than I have ever seen it in elsewhere. The growth is on the posterior wall near the fundus. The uterus as a whole is not enlarged. Uterus removed by abdominal panhysterectomy. (For the notes of the case from which this specimen was removed see p. 261, Case 1.)

this kind the cavity of the body of the uterus still maintains its flattened shape from before backwards, the anterior and posterior mucous surfaces being in contact: that is to say, in an early case of this kind the cavity of the body of the uterus is rather a potential than an actual cavity, and the uterus may be little, if at all, enlarged.

In a more advanced case the malignant mass will be larger—for instance, projecting into the cavity of the uterus from its base of attachment for an inch or more. In a case of this kind the cavity of the body of the uterus has lost its flattened shape and semi-potential character,

Fig. 45.—Carcinoma of the body of the uterus. The soft papillary growth—a more advanced stage than that represented in the last Fig. The growth forms a mass about the size of a Tangerine orange, projecting into the endometrium at its upper part. The papillary character of the surface only slightly marked.

and owing to the separation of the anterior and posterior surfaces it is commencing to be somewhat globular in outline, the surface of the projecting mass being distinctly

papillary, and in both cases the growth is soft and characteristically friable. Small portions of it can be easily broken down with the finger, and, indeed, in a moderately advanced case, as the finger is withdrawn, yellowish-white fragments of the growth will come away.

Fig. 46.—Primary carcinoma of the body of the uterus. The soft papillary growth. The papillary character of the surface well marked. (Uterus from Case 5* removed by vaginal hysterectomy and laid open).

Both in the very early case, and in the moderately advanced case, the remainder of the mucous surface can be recognised to be smooth, and apparently normal.

In a still more advanced case the projecting papillary

* In Table IV., p. 224.

growth of the kind described has spread over the whole of the mucous surface of the body of the uterus, and in certain cases it may even have spread downwards so as to involve the cervical mucous membrane. It may even have spread so far downwards as to appear at the external os. I have seen such cases, but they are, however, quite exceptional.

Still more rarely (I have met with two instances of it myself) in primary carcinoma of the body of the uterus the growth springing from the body of the uterus may assume a somewhat polypoid form, and may gradually dilate the cervix, including the external os, and actually project into the vagina. Such a polypoid malignant mass springing from the body of the uterus, and projecting as described, has all the clinical characters of a malignant growth. It is soft, very friable, and bleeds freely on the slightest touch. Portions can be easily removed with the finger.

2. **The Soft Flat Growth.**—In some cases the malignant growth takes the form of a soft pinkish-white growth raised about a quarter of an inch above the healthy endometrium. The surface is not papillary, but rather flat, with here and there a ridge. It is friable, as in the case of the papillary variety. Portions can be easily brought away with the finger, or the curette.

3. **The Tuberose, somewhat Hard Growth.**—In this variety, when the finger is passed into the uterus after dilating the cervix as already described, it comes upon a growth the surface of which is irregularly tuberose. The growth is raised perhaps a quarter of an inch or more above the general surface of the mucous membrane. The growth is not papillary, and cannot as a rule be broken down readily with the finger. Such a growth has usually a very definite border.

4. **The Irregularly Ulcerated Condition of the Endometrium.**—In this variety there is a hard irregular ulcerated condition of the endometrium. This to some extent resembles the third variety; but in the one under consideration there is little or no projecting growth, as in No. 3. In No. 3 it is quite easy to recognise that there

is a projecting growth well raised above the general surface, with an irregular, somewhat nodulated surface. It is, as already mentioned, hard, and it may be irregularly ulcerated. In No. 4, however, there is little or no projecting growth, and the finger merely detects that the surface is not the mucous surface of a healthy endometrium, but that it is hard and irregular, and that it bleeds readily on touching it—a character common to all four varieties. In neither Nos. 3 nor 4 can anything as a rule be brought away with the finger or the curette.

Diagnosis.—In the first variety, which is the commonest of all—the papillary form—the diagnosis is exceedingly easy. A portion of the mass can be easily removed with the finger or curette, and examined under the microscope, when its malignant character will be definitely ascertained. The same is true of the second form—the flat soft growth. In the other two varieties, however, little or nothing—generally nothing, except, perhaps, a little of the mucous membrane of the body of the uterus, of no diagnostic importance—can be removed either with the finger, or with a curette.

In both these varieties the observer is entirely dependent on his actual experience of the various morbid conditions that may be found under any circumstances in the cavity of the body of the uterus. For the diagnosis of primary carcinoma of the body of the uterus depends very largely on the observer being able to discriminate by a process of elimination between all the diseases to which the lining membrane of the body of the uterus is liable. By a process of exclusion in primary carcinoma of the body of the uterus he comes to the conclusion that there is no condition of a non-malignant kind that has the physical characters of that present in the uterus in the case under consideration. There is little difficulty in diagnosing carcinoma of the body of the uterus, provided the possibility of its presence is suspected. Considering that the disease almost invariably occurs in women well advanced in life, most of them past the menopause, there is really no excuse for omitting to think of the presence of this disease. I will,

however, briefly mention some of the conditions that might possibly give rise to difficulty. The difficulty is generally rather academic than clinical.

Fibroids.—It has already been said that as regards etiology there are many points of resemblance between cases of fibroid tumours of the uterus and cases of primary carcinoma of the body. We may suppose that a

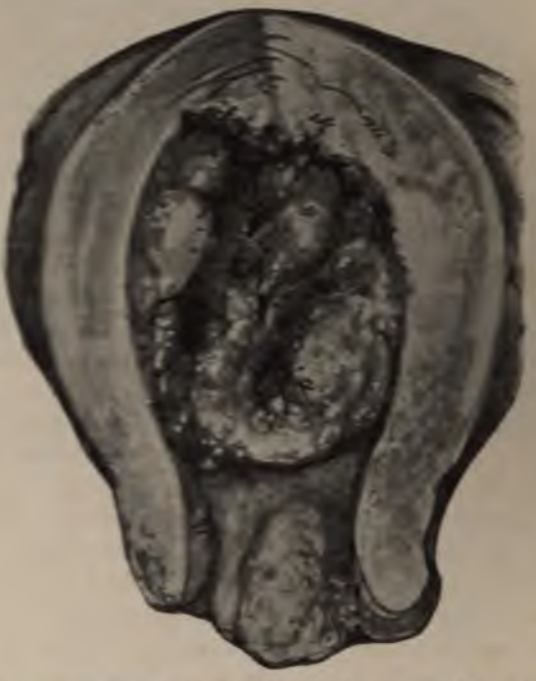


Fig. 47.—Primary carcinoma of the body of the uterus. The tuberose hard growth. Uterus removed by abdominal pan-hysterectomy. (For the notes of the case from which this specimen was removed see p. 264, Case 2.)

woman who has been the subject of fibroid tumours during her menstrual life has come to the menopause. If they be of moderate size, generally after the menopause they will cease to give any further trouble. One may theoretically suppose, however—the condition is rather theoretical than practical—that some one of several fibroids existing in the uterus in such a patient might

undergo degeneration, and breaking down might cause some bleeding, some offensive discharge, and some pain. After dilating the cervix, if this were necessary, there might in this way be found at some part of the interior of the uterus a more or less irregular chasm, in which

Fig. 48.—Primary carcinoma of the body of the uterus. The hard irregularly ulcerated condition of the endometrium referred to in the text. Nothing could be detached with the finger or curette. Uterus removed by vaginal hysterectomy in Case 7,* and laid open.

A. Peritoneum.
B. Cut surface of uterine wall.
C. Growth in endometrium.
D. Cervical canal.

might be felt a certain amount of friable tissue. Supposing the case, however, to be one of degenerated fibroid, there would probably be other fibroids which had not

* In Table IV., p. 224.

degenerated, producing the irregular enlargement of the uterus which is characteristic of fibroids, and the ones that had not broken down would also be characteristically hard. In such a case there would be little question at the present day but that the right treatment would be removal of the uterus, which of course is also the treatment in reasonably early cases of carcinoma of the body of the uterus. So that, although very little real difficulty in the diagnosis between carcinoma of the body of the uterus and fibroids is likely to occur, it becomes, under the circumstances supposed, a matter of comparatively little importance from the point of view of treatment.

As a matter of fact I have more than once met with fibroid tumours and carcinoma of the body co-existing in the same uterus.

Mucous Polypi.—In one of my cases of carcinoma of the body of the uterus the patient had a crop of rather large mucous polypi growing from the cervix in the neighbourhood of the external os. She gave a history that a short time previously she had had a severe hæmorrhage, losing, as she said, about a pint of blood. Now it is important not to be misled, if on examination one finds several mucous polypi as described, into the belief that such a severe hæmorrhage as that just mentioned could be due to the presence of the mucous polypi. Mucous polypi of the cervix sometimes cause no bleeding; more frequently they cause a yellowish discharge, which is from time to time *blood-stained*; but the actual bleeding to which they give rise is always comparatively slight. In the case in question I felt perfectly sure that the mucous polypi could not have accounted for the flooding of which the patient gave a history, and I therefore dilated the cervix, and found a typical carcinoma in the body of the uterus.

Senile Endometritis.—This is a condition which gives rise to symptoms which are practically the same in kind as those characteristic of primary carcinoma of the body of the uterus; but, so far as my experience goes, they are very different in degree. That is to say, in senile endometritis there may be a purulent, sometimes

blood-stained, discharge from the body of the uterus, and perhaps some pain, but there is no free hæmorrhage, still less anything amounting to a flooding, nor is the pain at all severe. Moreover, the history will probably be of much longer duration. Again, there will probably be very little enlargement of the uterus as ascertained either bi-manually, or with the sound. Still, in cases with the symptoms described, it will generally be desirable to make quite sure that we are not dealing with a case of early carcinoma, which, as already mentioned, in its early stages may produce no appreciable enlargement of the uterine body. So that in cases with the symptoms described, it will be desirable as a rule to dilate the cervix sufficiently to introduce the finger, and definitely ascertain the condition of the endometrium. When this has been done in senile endometritis, the inner surface of the uterus will be found to be smooth. It will not bleed very readily, and—most important of all—there will be none of the physical conditions which have been described as characteristic of primary carcinoma of the uterine body.

As a rule, after the physical examination conducted in the manner described, little or no doubt will remain in the mind of an observer who has had large experience of similar cases as to the nature of the case before him. In those cases in which it has been possible to remove a portion of the suspected growth, either with the finger or a curette, it is desirable to examine it microscopically to confirm, or correct, the opinion that has been formed on the clinical evidence alone.

Treatment.—Just as in cases of carcinoma of the cervix, so in cases of primary carcinoma of the body of the uterus, the treatment to be adopted depends on whether the disease is still limited to the tissues of the uterus itself. If this seems to be the case, the whole uterus should be removed. On the other hand, if there is good reason to think that the disease has spread beyond the limits of the uterus—for instance, into the broad ligaments—or that, for instance, coils of intestine have become adherent to the peritoneal surface of the uterus, and have become invaded by the growth, no radical

operation is likely to be of the slightest use. Here, again, as in cases of cancer of the cervix, the best means of coming to a correct conclusion in this respect is to make a very careful examination under anæsthesia. A careful bi-manual examination should first be made, and in this way the extension of the disease—in the direction of the broad ligaments, for instance—will be easily recognised. It is also important to be particularly on the look-out for isolated nodules, from the size of a pea, perhaps, to the size of a walnut, in the direction either of the utero-sacral ligaments, or of the broad ligaments. Such isolated nodules are practically certain, in such a case, to be of a malignant nature.

Drawing down the uterus by means of a volsella attached to the vaginal cervix is also of value. If the uterus cannot be drawn down freely to the outlet of the vulva, the most probable cause of this is extension of the disease beyond the uterus itself. Limitation of mobility may also of course be due to adhesions resulting from a previous attack of pelvic peritonitis.

The size of the uterus is also to some extent a guide on this point. When the body of the uterus is very considerably enlarged—for instance, to the size of the pregnant uterus at four months, or larger—it is highly improbable that the disease is still limited to the uterine tissues only. If the result of the examination has been to show that no extension such as that indicated has taken place, there can be no question that removal of the whole uterus is the right treatment.

Choice of Operation.—The uterus may be removed either by vaginal hysterectomy or, after abdominal section, by an operation conducted entirely from above, or by an operation conducted partly from above and partly from below. As regards cancer of the cervix, almost all the advantages appear to be on the side of vaginal hysterectomy. Thus, in the latter operation, the exact position and extent of the growth are clearly visible, and the incisions in the vaginal mucous membrane can be made as far as possible from the edge of the growth.

Another advantage which I myself believe to be of

some importance is that the cut edges of the vaginal mucous membrane and adjacent submucous connective tissue can, in vaginal hysterectomy, be freely seared with the cautery.

Apart from some coincident pathological condition, such as fibroids, the body of the uterus is not enlarged in cancer of the cervix, so that in vaginal hysterectomy there is usually no difficulty in removing the body of the uterus on account of its size.

Again, there is, as a rule, less general disturbance after vaginal hysterectomy, less tendency to vomiting, distension, rapid pulse, and less pain than in operations involving opening the abdomen in the usual position. In a purely abdominal pan-hysterectomy for cancer of the cervix the vagina has of course to be opened into from above, and the incision may, or may not, clear the malignant growth. Some portion of it is almost certain to be left behind, and the operation thereby rendered useless. It is true that this objection may be met by performing a combined operation, partly from below through the vagina—as in the first stage of a vaginal hysterectomy—and then completing the operation from above. This procedure will, I think, be generally admitted to be at least inconvenient, owing to the loss of time in altering the position of the patient, and having again to go through the processes for disinfecting the hands prior to opening the abdomen. At least this has seemed so to me in the few cases—some of them in operations for uterine fibroids—in which I adopted it.

Again, in abdominal hysterectomy it is far easier to remove the upper portion of the broad ligaments with the tubes and ovaries than when the operation is performed from below; but in cancer of the cervix this is a matter of little or no importance, since the disease has no tendency to spread in the direction in question, at all events at a stage of the disease when hysterectomy is likely to be performed.

Another point is, that if ligatures are used to secure the vessels, these can as a rule be tied much more securely in abdominal than in vaginal hysterectomy. Still, as a

matter of experience, there is rarely any difficulty in sufficiently securing the vessels in the latter operation either by ligatures, or pressure forceps.

There is one more question to be thought of in considering the operation to be chosen in cases of cancer, whether of the cervix, or of the body. I refer to the infection of the lymphatic glands.

If it were a fact, as it is maintained by some authorities,* that the glands are always, or generally infected in cases of cancer, either of the cervix or of the body of the uterus, in which, as far as physical examination can ascertain, the disease has not spread locally beyond the limits of the uterus, no operation would be satisfactory by which these glands were not removed. Hence abdominal hysterectomy, with removal of the glands, would have to be the routine operation in all cases of cancer of the uterus, whether of the cervix or of the body, when any radical operation was to be done at all. But it is certainly not the fact that the glands are always affected at a stage of the disease when hysterectomy would be contemplated, nor do I believe it to be anything but a very infrequent occurrence at the stage of the disease in question.

The proof of this lies in the after-histories of cases operated on for cancer of the uterus in which the glands have not been removed. Among my own cases the after-histories sufficiently prove that the glands are not by any means always affected in cases of cancer of the uterus at an operable stage. My own belief is that, when the glands are affected, the disease has usually already advanced beyond the limits of the uterus, either to the vagina or connective tissue round the cervix, or to the broad ligaments, and that any operation having for its object the cure of the disease, or even prolonged freedom from recurrence, is on that account already contra-indicated.

So far as cancer of the cervix is concerned, I have already given what I believe to be good reasons why operations of a more extensive nature than the mere removal of the uterus should not be performed.

* *E.g.* Jacobs of Brussels.

When, however, we come to consider cases of primary carcinoma of the body of the uterus we are on much more debateable ground. In cancer of the body of the uterus the cervix, and especially the vaginal portion of the cervix, is generally altogether unaffected. At times, it is true, in rare instances the malignant growth has spread a variable distance down the cervical canal, and may even show at the external os uteri. This is a very rare event, and, even when it does occur, the outer surface of the vaginal portion is not involved. Hence in performing abdominal pan-hysterectomy—that is to say, removing the whole uterus by an operation conducted entirely from the abdominal aspect, when the vagina is opened only from above—so long as the incision is clear of the cervix, and it is generally a matter of no particular difficulty to make sure of this, there is no risk of leaving some of the maligant growth behind.

Again, the body of the uterus is considerably enlarged, and, on the other hand, as the subjects of this disease are, as we have seen, for the most part elderly women, the vagina is narrow from the contraction due to senile atrophy occurring after the menopause. As many of the patients are sterile, the vagina has—even before the menopause—not been dilated to the capacity found in parous women. Both on account of the size of the uterus and of the narrowness of the vagina, removal of the uterus from below is a more difficult matter than from above.

In abdominal pan-hysterectomy, also, it can at once be ascertained by an inspection of the parts whether, for instance, coils of intestine have become adherent to the uterus, and are already infected by the growth; also, secondary malignant nodules in other parts—the parietal peritoneum, for instance, or elsewhere—will be easily recognised.

Should such evidence of extension of the disease be detected, the operation would be abandoned, in all probability, before the patient had incurred any considerable risk. Whereas, if in a case where coils of bowel are adherent to the cancerous body of the uterus, and are

invaded by the growth, an attempt is made to remove the uterus through the vagina, it may be possible to remove the uterus, but the patient will incur a considerable immediate risk, and, owing to the extension of the disease to the bowels, will by no possible chance be any the better for the operation.

In abdominal pan-hysterectomy, also, the fact that it is an easy matter to remove the ovaries and tubes, with a good width of the upper part of the broad ligaments on each side of the uterus, is, I think, in primary carcinoma of the body, a distinct advantage.

Again, in abdominal hysterectomy adhesions about the uterine appendages, due to bygone pelvic peritonitis, can be safely dealt with; whereas such adhesions constitute a very formidable difficulty if vaginal hysterectomy is being performed.

An objection to the abdominal route deserving mention is the risk of fouling the peritoneum with the discharge escaping from the os uteri as the uterus is brought upwards. This may, however, be avoided by passing a stout ligature through the vaginal portion of the cervix, with a strong needle in a handle, so as to encircle the os, and tying it tightly. This, of course, must be done before the abdomen is opened.

One more important question is the relative mortality of the two operations, abdominal pan-hysterectomy and vaginal hysterectomy. Soon after Czerny had reintroduced vaginal hysterectomy in 1879, Freund began to remove the cancerous uterus by abdominal section. The mortality, as stated in Greig Smith's work on abdominal surgery, was nearly 70 per cent. The mortality of vaginal hysterectomy for cancer, about the same time or within the next five years, was nearly 30 per cent. Thus the abdominal method, being very much the more dangerous, gradually fell into complete disuse, and for some years vaginal hysterectomy was alone practised.

Though the operation for cancer had been abandoned, the *technique* of abdominal hysterectomy for fibroids continued to receive the closest attention of many operators. In this way were evolved the two operations for fibroids

now in favour—first, abdominal hysterectomy, with intra-peritoneal treatment of the cervical stump, the essential point in the operation being the ligature of the uterine arteries outside uterine tissue; and next, abdominal pan-hysterectomy, or removal of the whole uterus by an operation conducted entirely from above. Both these operations have now a very low mortality, probably in experienced hands not exceeding 5 per cent.

I was led to perform abdominal pan-hysterectomy for fibroids by reading Martin's paper in the *Transactions of the Edinburgh Obstetrical Society* for 1896, and I have adopted it in five cases, all of which have made uneventful recoveries, though in most of my hysterectomies for fibroids I have been quite content with abdominal hysterectomy with intraperitoneal treatment of the stump.

Of course it must not be forgotten that during the period in question the mortality of vaginal hysterectomy for cancer has also been greatly reduced. In my series of forty cases recorded in the paper I read before the Royal Medical and Chirurgical Society of London, in November, 1900, the mortality, for instance, was 7½ per cent. It is probably not far from the truth to say that at the present time, in the case of an operator with large experience in both operations, there is not much difference between the mortality of abdominal pan-hysterectomy and vaginal hysterectomy for cancer. On the whole, therefore, it seems to me that for cancer of the body of the uterus, abdominal pan-hysterectomy has, in many cases, preponderating advantages. In most of the cases in which I have removed the uterus for primary cancer of the body, vaginal hysterectomy was the operation performed; but in two comparatively recent cases I removed the uterus by abdominal pan-hysterectomy.

At present, then, the position of the question as to which operation shall be chosen in primary carcinoma of the body of the uterus seems to me to be this:

If the case appears to be a perfectly simple one—that is to say, if the uterus is only slightly enlarged; if it is quite freely movable, and there is no "thickening" anywhere around it; if, also, the vagina is capacious, so that the

operator will have plenty of room to work in, the preference should be given to vaginal hysterectomy.

If, on the other hand, the body of the uterus is considerably enlarged; if there is reason to suspect either the presence of inflammatory adhesions round it, or perhaps adhesions of the intestine to the uterus itself, involving the probability that the disease may have spread beyond the uterus; and, again, if the vagina is narrow, then abdominal section should be performed. I say advisedly *abdominal section*, because it may be that after the abdomen has been opened, evidence will be found that the disease has extended to other parts outside the uterus, and in that case nothing further should be done, but the abdomen should be immediately closed. If, however, on abdominal section no evidence of such extension is to be found, the operator will proceed with the operation of pan-hysterectomy, the steps of which I will now proceed to describe.

Abdominal Pan-Hysterectomy.—A preliminary step is desirable. The patient is put in the lithotomy position, and the vagina disinfected as thoroughly as possible. The vaginal cervix is then drawn down within reach with a volsella. A stout rectangular needle in a handle is then passed from behind forwards through the tissue of the vaginal portion, say on the left side, threaded with a strong ligature, and withdrawn. The unthreaded needle is similarly passed on the opposite side from behind forwards, and threaded with the anterior end of the ligature already in position. The needle is again withdrawn. A ligature has thus been passed in such a position that when it is tightly tied the external os will be completely occluded. The ligature may be tied rather more tightly than would otherwise be possible, if both lips of the vaginal portion are pressed together with a volsella during the process. The patient is then, of course, to be put in the Trendelenburg position, and all the preparations for the abdominal section proceeded with.

The abdomen is opened in the middle line by the usual incision. The intestines are kept out of the way by sponges, and the relations of the uterus carefully examined.

If there has been old inflammatory mischief about the uterine appendages on either side, it will be necessary first to separate the adhesions around them, so that the uterus may be easily pulled up. If the disease is judged to be at all extensive as the result of the previous examination, it is desirable to remove the uterine appendages on both sides with the uterus. The first step is to pull the uterus as much upwards as possible without lacerating its coats. Then, taking, for instance, the right uterine appendages and pulling them upwards, a stout silk ligature is passed with a pedicle needle through the broad ligament outside the Fallopian tube in such a way that when the ligature is tied it will secure the ovarian vessels on that side. Another ligature may be passed further in, nearer the uterus, simply for the purpose of controlling reflux bleeding. When both these ligatures have been tied the right broad ligament is divided between them, say about half an inch internal to the outermost ligature; the same is done on the other side. It is also desirable to tie the round ligament on each side in two places, and divide it between the ligatures.

As the result of what has been done, it will be possible to draw the uterus further upwards towards the abdominal wall than was possible before. The next step is to pull the uterus up, and somewhat backwards. By careful inspection, confirmed, if necessary, by the passage of a sound into the bladder, the height to which the bladder reaches upwards on the uterus anteriorly is ascertained. There is generally a whitish transverse line to be seen indicating the upper limit of the bladder towards the uterus. Now with a sharp knife an incision should be carried from one side to the other, through the peritoneum of the anterior uterine wall about half an inch above this white transverse line. Care must be taken that this incision only extends through the peritoneum. This can be quite easily managed, provided the knife is sharp. Now the peritoneum is stripped downwards and forwards towards the bladder, partly with the finger. Here and there a few fibrous bands lying in the sub-peritoneal tissue require to be touched with the knife. In this way, with the

peritoneal flap in question, one strips downwards and forwards the bladder also, and at the end of this step of the operation the finger at the deepest part of the wound is touching the anterior vaginal wall immediately in front of the vaginal portion of the cervix.

Unless the operator has had previous experience of this particular operation, he will now find it an advantage to have a pair of long Wells's forceps, bent on the flat, passed up the vagina by an assistant, and pushed carefully into the anterior fornix in the middle line, keeping close to the cervix. The effect of this will be to make the anterior vaginal wall project in the deep part of the wound, so that the operator can easily feel the point of the forceps, and so recognise his exact position. The anterior vaginal wall is then cut through on the point of the forceps either with a knife, or with scissors. The assistant then pushes the point of the Wells's forceps through the opening, and opens the forceps so as to enlarge the opening sufficiently to admit the operator's finger easily. The forceps are then withdrawn. The operator then passes his finger into the vagina, and, guided by the finger, makes an opening from above from the peritoneal aspect through the posterior vaginal wall, so that at this stage of the operation the uterus is free in front and it is free behind, but most of the lateral attachments still remain. As regards the opening in the posterior vaginal wall there are generally many bleeding points that require to be controlled with ligatures. The middle third of the broad ligament on each side may be tied and divided between double ligatures, as was the upper third. But as regards the lowest third of the attachment, in which lies the uterine artery, there is no room for double ligatures. The uterine artery can generally be recognised, and tied separately. The ligature on it is left long, and in the same manner the rest of any attachment remaining at each side at the lower third of the broad ligament is tied. When the lower third of the attachment has been divided on each side the uterus is free, and can be lifted away. The cut edges of the vaginal walls should be carefully inspected for bleeding points, and it will generally be necessary to pass a few

fine ligatures to control these. This may be conveniently done with a Hagedorn's needle and needle-holder. The ligatures on the uterine arteries are also carefully inspected. All these ligatures, on the uterine arteries, and on the cut edges of the vaginal walls, are left long. It is convenient to collect them into four bundles—an anterior bundle, a posterior bundle, and a lateral bundle on each side. By means of a pair of long Wells's forceps passed up from below, these ligatures are all drawn down into the vagina. A strip of iodoform gauze is now drawn from above down into the vagina. An inch or so of it is left projecting into the peritoneal cavity. The abdominal wound is now completely closed, and the operation is finished.

After-Treatment.—The general principles of the after-treatment are exactly the same as for any case of abdominal operation. The gauze in the vagina may be left for five, six, or seven days. It may then be cautiously withdrawn, great care being taken to avoid any traction on the ligatures, which are hanging down in the vagina. These must be left to come away entirely by themselves. It may happen that they are not quite loose for several weeks, but this need give rise to no anxiety. Sooner or later they will come loose of themselves, and the raw surface left will granulate up.

As already mentioned, I have had several cases of abdominal pan-hysterectomy for uterine fibroids, but up to the present I have only adopted it in cancer of the body of the uterus in two cases. All of these cases have made uneventful recoveries.

The following are the notes of the first two cases in which I performed abdominal pan-hysterectomy for carcinoma of the body of the uterus:

CASE 1.—

A lady, fifty-four years of age, came to me on February 12th, 1900. She had been married for fifteen years, but had never been pregnant. She had been quite regular till the age of fifty, when she had synovitis, and stayed in bed for some time, after which menstruation ceased altogether. In April, 1899, she began to have

some vaginal discharge. It was at first colourless, but was afterwards sometimes yellow, and sometimes of a brown colour, and continued up to the time I saw her. She had had no pain at all, and did not think she had lost weight. The discharge had at times an unpleasant smell. There was nothing else in the history of any special interest.

Nothing abnormal was detected on examining the abdomen. On vaginal examination the external genitals were redder than normal, and slightly sore-looking, and there was some yellow discharge at the vaginal orifice. The vagina was extremely narrow, and examination with one finger caused a good deal of discomfort. On this account the examination was not very satisfactory: but as far as could be made out the uterus was freely movable, and the external os rather small. There was nothing abnormal as regards the vaginal portion of the cervix. The extreme narrowness of the vagina was shown by the fact that the patient could not bear the smallest Fergusson's speculum to be passed. A small rectal speculum was therefore passed into the vagina. It was rather less than half the length of an ordinary Fergusson's speculum, and it only showed the lower two inches of the vaginal walls, which were thinly covered with the yellow discharge above-mentioned.

I advised the patient to have the cervix dilated sufficiently to allow the interior of the body of the uterus to be examined with the finger. She consented to have this done; but as she wished to return to the north of England for a fortnight, it was not till March 1st that she entered Fitzroy House.

The next day, with the usual antiseptic precautions, a specially prepared laminaria tent was inserted into the cervix. To do this, owing to the narrowness of the vagina, it was necessary to have the patient anæsthetised. Speaking from memory, I believe I have only once before found it necessary to have the patient anæsthetised for the insertion of tents, so that it will be seen that the narrowness of the vagina was such as to cause real difficulty in dealing with the case.

On March 3rd the dilatation of the cervix was completed under anæsthesia with Hegar's dilators. A growth was found very high up in the endometrium. A portion of it was removed for microscopical examination, though I felt little doubt after the digital examination of the endometrium that the growth was malignant. The portion of growth removed was sent to the Clinical Research Association, and the report came back that it was carcinomatous. The patient was accordingly advised to have the uterus removed, and to this she consented.

Operation, April 11th, 1900. — The preliminary dilatation of the cervix for diagnosis had been so difficult, on account of the narrowness of the vagina, that I decided to remove the uterus by abdominal pan-hysterectomy. The method was the same as that just described, and the same as I had previously adopted in four cases of pan-hysterectomy for fibroids, an account of which was published in the *Lancet*, July 8th, 1899, p. 82. In this case the vagina was douched with perchloride of mercury lotion (1 in 1,000) before the operation, but I did not make any attempt to occlude the cervix by a suture, or to pack it before beginning the abdominal section. The right uterine appendages were removed with the uterus, but the left appendages were not removed. The ligatures on the uterine arteries, and on the vessels in the cut edges of the vaginal walls were left long, and drawn down into the vagina by long Wells's forceps passed up into the vagina by an assistant. An iodoform gauze drain was drawn down from above into the vagina, about an inch of it being left projecting into the peritoneum. The abdominal wound was completely closed.

The patient made an uninterrupted recovery, and the ligatures came away at the end of the fifth week.*

Description of the Specimen.—"The uterus has been laid open by an incision from the external os to the fundus through the anterior wall (Fig. 44). The extreme length of the uterus is three inches. At the extreme highest

* I had a letter from her dated August 23rd, 1902, saying she was quite well.

point of the endometrium, and extending downwards for an inch and a quarter on the posterior wall, is a new growth raised only slightly above the general surface of the endometrium. Its surface is faintly papillary. A sagittal section has been made through the growth and the wall of the uterus from which it springs. This shows that the growth penetrates deeply into the uterine wall, the limit of its penetration to the naked eye being marked by a sinuous irregular whitish border."

A portion of the growth was sent to the Clinical Research Association, and Mr. Targett's report on it was as follows:

"The wall of the uterus is deeply invaded by a very soft columnar-celled carcinoma. The growth is much degenerated, and therefore stains badly. It is a primary carcinoma of the body of the uterus."

CASE 2.—

A woman, aged fifty-seven, was admitted into the London Hospital under my care on October 5th, 1901, at the request of Dr. W. C. Taylor, of Victoria Dock Road, London. She had been married for thirty-six years, and had had six children, the last twenty-one years ago: and two miscarriages, the last nineteen years ago.

Menstruation began when she was between sixteen and seventeen years of age, and occurred regularly every four weeks without any pain.

She had been subject to bronchitis and asthma up to last year. She used to have quinsy twenty years ago. There was no history of syphilis, nor had she ever had any severe illness. Her family history was good.

Two years and a half ago the periods ceased for ten months: then they recurred three months at monthly intervals. After that the loss of blood became more or less continuous. Sometimes clots were passed, but the discharge was never offensive. The discharge during the previous three months had not been quite so profuse as before, but she had had constantly to wear a diaper. Since April she had had pain on the right side running from the back to the right groin, and also aching of the

right thigh. It was not constant, for sometimes she would be free from pain for twelve hours. When present it was aching, with an occasional severe shooting or cramping feeling. Sometimes the pain made her sick, and caused her to perspire, especially at night. It was relieved by sitting up, or by walking about, and sometimes by alcohol. She had had no trouble with micturition, but the bowels had been constipated, and she took aperients frequently.

During the eight months before admission she had lost two stone in weight.

From the above account it will be seen that there had been a more or less constant blood-stained discharge for about seventeen months prior to her admission to the Hospital.

On admission she was found not to be anæmic. She had a rather worried expression. Her weight was 9 st. 2 lb.

On October 7th she was anæsthetised, and a careful examination was made with the patient in the lithotomy position. With Sims's speculum it was seen that the vaginal portion of the cervix was healthy, except for a slight erosion on the posterior lip. The cervix when drawn upon with a volsella did not come down well. Bi-manually the uterus was found to be enlarged, but only fairly movable. The sound passed a distance of three inches and a half. The cervix was dilated with Hegar's dilators up to No. 19 without any difficulty, there being only slight resistance as each dilator was passed, and that at the external os. The finger passed into the uterus came upon a growth chiefly situated on the posterior wall; it was not of the soft papillary variety. It terminated below by a raised, somewhat rounded border. The growth extended so low in the body of the uterus that it was not quite certain at this examination that the growth had not extended into the cervical canal. Subsequent examination of the specimen, however, showed that it had not involved the cervix. There was no offensive smell about the examining finger.

Operation, October 14th, 1901.—The patient was anæsthetised, and placed in the lithotomy position. After

disinfecting the vagina as well as possible with a lotion of perchloride of mercury (1 in 1,000), the cervix was exposed, and seized with a volsella. A stout silk ligature was passed through the vaginal portion with a strong needle in a handle from behind forwards on the left side of the os uteri. The needle (unthreaded) was then passed similarly on the right side of the os, threaded with the anterior end of the ligature already passed, and withdrawn. The ligature was then tied as tightly as possible, thus occluding the external os. While the ligature was being tied the position of the volsella was altered so as to press the anterior and posterior lips of the cervix closely together. The patient was then put into the Trendelenburg position, and abdominal panhysterectomy was performed. The right uterine appendages were removed, but the left appendages were allowed to remain. There were some adhesions about the appendages on the left side, which had to be separated before the uterus could be drawn up freely. The limited mobility of the uterus observed at the previous examination was no doubt due to these adhesions. When the uterus had been removed, all the ligatures were drawn into the vagina, and a strip of iodoform gauze was also drawn into the vagina, but an inch of it was left projecting into the peritoneal cavity. The abdominal wound was then completely closed.

The subsequent progress of the case was uneventful. The ligatures were not loose when the patient left the Hospital. They were cut a good deal shorter a few days before she went away, so that it would be impossible for any of them to project from the vagina. She went to a Convalescent Home on November 9th.

Description of the Specimen.—"The uterus has been laid open from the front (Fig. 47, p. 248). Its extreme length is three inches and threequarters. The cervix to the naked eye appears quite healthy, and is very short. Almost the whole of the endometrium is occupied by a new growth. This is raised about a quarter of an inch above the general level, and its edge distinctly overhangs the adjacent apparently healthy endometrium. Its surface is somewhat

tuberose. In the downward direction the growth extends very nearly to the internal os, and terminates by a semicircular border convex downwards."

A portion of the growth was sent to the Clinical Research Association, and Mr. Targett's report on it was as follows:

"This is a columnar-celled carcinoma of the body of the uterus, originating in the endometrium, and invading the muscular coat. The tubular arrangement of the cells is very distinct."

In each of these cases the specimen, and a section of the growth under the microscope were shown at a meeting of the Obstetrical Society of London on January 1st, 1902.

Vaginal Hysterectomy for Cancer of the Body of the Uterus.—This has been the operation that I have always performed in cases of primary carcinoma of the body of the uterus suitable for radical treatment, till April, 1900. The preparation of the patient, and the steps of the operation are essentially the same as when the operation is performed for cancer of the cervix. A description of vaginal hysterectomy for cancer of the cervix has already been given on page 58.

There are certain points, however, in the operation when performed for primary carcinoma of the body of the uterus to which it is desirable to call attention. The principal differences are that, on the one hand, the body of the uterus is generally distinctly enlarged, and, on the other hand, for the most part the patients are aged women, and therefore the vagina is almost always somewhat narrow on that account alone. Again, a good many of the patients with this disease have had no children, so that, in many of them, the vagina has never been previously dilated.

Compared, then, with the operation for cancer of the cervix, vaginal hysterectomy for primary cancer of the body must be regarded as decidedly the more difficult of the two.

In order to overcome these difficulties, first, as regards the narrowness of the vagina, unless this be extreme (as in the first of the two cases just recorded, in which I performed abdominal pan-hysterectomy), it may be

sufficiently overcome by an incision on each side through the mucous membrane of the vagina near the entrance. When the parts are held asunder with strong retractors, the tissues will yield sufficiently, in all probability, to give the operator the room he requires.

As regards difficulties in the operation dependent on the size of the uterus, care must be taken to make the opening into Douglas's pouch as wide transversely as may be done with safety. The opening also of the utero-vesical pouch must similarly be made as wide as possible.

The uterus being free in front and behind, the next step is to deal with the lateral attachments. When the uterus is only moderately enlarged—for instance, when its length is not more than four inches—it will probably be possible to remove it without diminishing its size by cutting. The lateral attachments must be clamped and divided, and, if ligatures are going to be used, tied piece by piece from below upwards. When the attachments have been secured and divided as high as the internal os *on each side*, the operator will then proceed to deal with the remainder of the lateral attachments on one side—say the right side, for example—and continue dealing with it until the whole of the right broad ligament has been secured and divided. Then by traction either with his fingers or otherwise, the uterus may be brought down into the vagina right side first. I have on more than one occasion, after the uterus had been freed on one side, "delivered" it into the vagina by means of a pair of forceps similar to a pair of small midwifery forceps. When, by whatever means, the uterus has been delivered into the vagina, it is still left hanging by the opposite broad ligament—in this case the left. It is quite easy then to secure this with pressure forceps, or pressure forceps followed by ligatures, and to divide it. The uterus is then completely free, and can be removed. If the operation has been conducted as described, the uterus will have been removed without opening its cavity, or cutting into the uterine tissues in any way.

But some operators have sought to overcome the

Plate II.

(Case of E. L., page 269.)

Interstitial circumscribed sarcoma of the body of the uterus; cervix partly **involved also.** Uterus laid open from behind. The sarcomatous masses are **shown dark** red as they appeared in the recent state.

PLATE III.

FIG. 1.

FIG. 2.

LEWERS' "CANCER OF THE UTERUS."

Plate III.

(Case of E. L., page 269: circumscribed sarcoma of body of uterus.)

Fig. 1.—Anterior surface of uterus. The peritoneum is discoloured a purplish tint opposite the large growth at the fundus (shown in Plate II.).

Fig. 2.—Drawing of a portion of lung from Case of E. L., page 269. (Circumscribed sarcoma of uterus.) Both lungs were similarly affected throughout.

difficulty dependent on the size of the body of the uterus by cutting it in various ways—either cutting it, for instance, longitudinally in two, or by a species of *morcellement* cutting out a wedge-shaped piece here, and another wedge-shaped piece there, and so on, till the size of the organ is sufficiently reduced to enable it to be easily drawn out. I have not adopted this system myself: I much prefer to remove the uterus anatomically complete, and I have not hitherto failed to do so. When the uterus is obviously too large to be removed as a whole by vaginal hysterectomy, I much prefer to do an abdominal pan-hysterectomy.

Sarcoma of the Body of the Uterus.—This is very much rarer than primary carcinoma of the body of the uterus. On account of the rarity of the disease it would scarcely serve any useful purpose to make any formal classification of symptoms, etc. Clinically, the symptoms and signs are very similar to those of primary carcinoma of the body of the uterus. The most conspicuous symptom is bleeding, and on physical examination the body of the uterus is found to be more or less considerably enlarged. I have only met with the disease myself in two cases.

In the first of them, when the patient first came under my observation, there were secondary sarcomatous nodules in the vagina, and it did not become evident till the post-mortem examination that these nodules were really secondary to a primary sarcoma of the uterine body. In that case there were also numerous secondary nodules in the lungs. The notes of this case are as follows:

E. L., aged fifty, had been married twenty-nine years, and had had eight children, the last eleven years previously. She had had no miscarriages.

She was admitted into the London Hospital on June 27th, 1885. She complained of having had a sudden attack of flooding about a month previously. It lasted an hour, and she lost a pint of blood. Two days after she had another similar attack. Since then she was confined to bed till she came to the Hospital. She once tried to walk across the room about a week after the

second attack of flooding, but the exertion was immediately followed by a third flooding. After each flooding she fainted and vomited, but the attacks were not attended by any pain. She had been losing flesh for the last three months, and for the last three or four months had had a watery discharge from the vagina of a "dirty" colour. A month ago—that is, about the same time that the flooding came on—she noticed a lump protruding from the vulva.

Previous History.—The patient began to menstruate at the age of sixteen. She was quite regular until her marriage. The flow lasted a week, and she had no pain at her periods. During the last nine years the patient said she had had altogether six attacks of profuse flooding: the one which began about a month ago was the sixth. The first attack of bleeding occurred nine years ago, and confined her to bed for five weeks; the second attack was three years after this. Between the attacks the patient said she had been quite regular.

Present Condition, June 29th, 1885: Vulva.—On inspection, without separating the parts, a black mass was seen between the labia majora posteriorly, separating the labia. The mass was seen to be oval, with its long diameter from before back measuring an inch and five-eighths, transversely one inch. The exposed surface of the mass was indistinctly divided by radiating furrows into three lobes. On tracing it up, the mass was found to be attached to the posterior vaginal wall by a pedicle, which extended downwards as far as the posterior edge of the vaginal orifice. Part of the tumour that was within the vagina was covered with vaginal mucous membrane of a pale pink colour like that elsewhere; but this covering ceased abruptly where the mass was exposed to the air, and, as already mentioned, the surface of the exposed portion was of a greenish-black colour. About halfway up the vagina on the right side a second mass the size of a walnut was to be felt under the mucous membrane. At the most prominent part of this mass was an area the size of a threepenny-piece, of a dark purple colour. Here the vaginal mucous membrane had become attached to the subjacent growth, and was ulcerated;

elsewhere the mucous membrane covering the tumour was normal. The mass had an elastic, semi-fluctuating feeling.

Uterus.—The condition of parts in the vagina interfered with a satisfactory examination of the uterus. It felt heavier than normal, and freely movable.

The temperature since admission had varied from normal to 100·4°.

The patient was thin and sallow; her general appearance suggested malignant disease. A gland could be felt in each groin, but neither of them was enlarged.

On July 2nd, 1885, the vaginal growths were removed, and after their removal, which was easily effected, a careful examination was made, the patient being still under the influence of the anæsthetic. The uterus was freely movable; its surface appeared smooth, and free from any irregularity. The sound passed three inches and a half without causing any bleeding.

After the operation the patient had an attack of septicæmia, from the effects of which she died on July 7th.

Post-mortem Examination.—Three distinctly circumscribed growths of a deep red colour, and soft consistence, were found within the walls of the uterus. The largest occupied the thickness of the uterine wall at the fundus. It measured vertically one inch and threequarters, and horizontally two inches and a half. The peritoneal surface of the uterus opposite this growth was discoloured, and of a purple tint, but was quite smooth. The lowest growth was partly in the wall of the cervix, and partly in that of the body of the uterus. There was no peritonitis. There were numerous secondary growths about the size of peas, but individually varying considerably in size, in both lungs. There were no secondary growths elsewhere (see Plates II. and III.).

The kidneys were granular.

A microscopical examination of the growths showed that they were mixed round and spindle-celled sarcomata.

There are some points in the clinical history of the case which seem worth noticing.

First, as regards the symptoms. It is difficult or impossible to say approximately when the disease began.

She gave a history of having had six attacks of profuse flooding. The recent ones must certainly have been due to the malignant growth present in the uterus; but the first attack, it will be seen, occurred as long ago as nine years. The severity of this attack is indicated by the fact that it confined her to bed for five weeks.

Then as regards the physical examination. The uterus was distinctly larger than normal; it was freely movable, and there was no evidence either during life, or post-mortem, of any tendency on the part of the growth to spread to the parametric tissues—yet that a very advanced stage of the disease had been reached was evident at the post-mortem examination from the very numerous secondary growths in the lungs.

It would not be right to argue too much from one case, but, as far as it goes, the case seems to show that primary sarcoma of the body of the uterus spreads in a very different manner from primary carcinoma of the body of the uterus. In an advanced case of primary carcinoma of the body of the uterus there is little doubt that the mobility of the uterus would have been considerably impaired, or completely lost, owing to the extension of the disease to the parts immediately in the neighbourhood of the uterus; whereas in this case of sarcoma of the body of the uterus, the parts immediately in the neighbourhood of the uterus were not affected at all. There were no symptoms pointing to the presence of the secondary growths in the lungs.

It will be seen that the mistake was made (it was seventeen years ago) of believing the nodules in the vagina to be primary. But if one saw a similar case at the present time, in the light of our present knowledge, with similar nodules in the vagina, with a history of floodings, and with an obvious enlargement of the body of the uterus, one would have little difficulty in coming to the conclusion that the uterus was the part primarily affected.* The lesson to be learned from the presence of these nodules in the vagina seems to be that when they occur

* I have a case in point under my care in the London Hospital now (August 25th, 1902).

they indicate that the disease is in a very advanced stage, and that operative treatment—even removing the uterus as well as the nodules—will most probably be useless, since there is a strong presumption that secondary growths are present in other organs.

I have seen one other case in the London Hospital with nodules in the vagina of a similar character. In this case it is interesting to notice that the patient was admitted on account of hæmorrhage, which was believed to be due to a threatened miscarriage. In point of fact, careful examination showed that the hæmorrhage came from an ulcer in the vaginal wall over one of these nodules, and not from the uterus at all. This case, however, though on clinical grounds I believe it to have been one of sarcoma of the uterus, with the formation of secondary growths in the vagina, is in a different category from the case just described in detail, because there was neither an operation, nor any post-mortem examination.

In the following case the appearances of the growth under the microscope were identical with what is found in cases of "deciduoma malignum." If the patient may be considered to have never been pregnant (which seems most probable), then the case must be classified as one of primary sarcoma of the body of the uterus. But there is nothing in the appearance of the growth under the microscope to differentiate the case from those classified as "deciduoma malignum."

The notes of the case are as follows:—

CASE 29.*—

E. W., a married woman aged twenty-four, was admitted into the London Hospital under my care on December 19th, 1896, complaining of bearing-down pain in the lower part of the back, and a constant red discharge from the vagina since a supposed miscarriage nine weeks previously.

Previous History.—She had been subject to a cough

* The number refers to the Table of forty consecutive vaginal hysterectomies for cancer (p. 224).

since she was fifteen years of age, and had attended Victoria Park Hospital. She said her "left lung was affected." She had smallpox eight years ago, and since then had been slightly deaf. She had been married twelve months, and thought that she had had three miscarriages. The *first miscarriage* was in April, 1896, when she believed herself to have been two months' pregnant: the *second miscarriage* was in August, 1896, when she thought herself to be five or six weeks' pregnant: and the *third miscarriage* was nine weeks previous to her admission to the Hospital. She thought herself about three weeks' pregnant when this miscarriage occurred.

Menstrual History.—The catamenia began when she was ten years old. She then "saw nothing" for ten months, and she was irregular up to the time of her marriage, there being often intervals of two, three, or four months between the periods. The periods were scanty, and attended with pain in the hypogastric region, and in the back. She sometimes had to remain in bed at these times.

There had been no trouble as regards micturition. The bowels had generally been constipated, and her appetite had been bad.

Family History.—Her father was alive. All the family were said to have suffered from "weak chests."

History of the Present Illness.—The patient said she had had a red vaginal discharge ever since the first miscarriage, which occurred, as already mentioned, in April, 1896. This discharge was more profuse when she was up and about. She had also had more or less pain in the lower part of the back and abdomen, and bearing-down pain since the first miscarriage. In the last supposed miscarriage, when she thought herself to be three weeks' pregnant, she was attended by a doctor, and "a small piece of flesh came away" on this occasion.

I inquired carefully as to what her reasons had been for considering herself pregnant before each of these supposed miscarriages. She said it was because she had "seen nothing" before each of them. This may be taken in conjunction with her statement that there had

been a constant red vaginal discharge since the first miscarriage. It looks rather as if there really had been a constant red discharge since the first supposed miscarriage, but that she regarded the slightly blood-stained discharge as of no importance, and as equivalent to amenorrhœa, and that, further, when there was a more profuse loss it seems extremely probable that she regarded this as due to a miscarriage. In each of the three supposed miscarriages the pregnancy was of only very short duration, two months, six weeks, and three weeks. At the time of her admission to the Hospital the case was supposed to be an ordinary one of metrorrhagia, due to an incomplete abortion.

State on Admission.—On abdominal examination nothing abnormal could be felt. On vaginal examination recent blood was seen about the external parts. The os uteri was not patulous; fresh blood was seen in it. The uterus was freely movable, in the normal position, and evidently somewhat enlarged.

On December 2nd, 1896, two specially prepared laminaria tents were inserted into the cervix, and at 3.30 p.m. on the following day the dilatation of the cervix was completed with Hegar's dilators under anæsthesia. The finger was then passed into the uterus, and near the fundus came upon a projecting mass the size of a walnut, part of which was easily detached. The mass was situated near the fundus, and to the right side. Most of this mass was easily detached with the finger, but there was no line of demarcation between the mass and the underlying wall of the uterus. As successive portions of the mass were scraped away, the finger sank more and more deeply into the substance of the uterine wall, so that the condition was altogether unlike that found in ordinary cases of incomplete miscarriage.

I have on one other occasion met with a condition in this respect resembling that found in the present instance. The case I refer to was one of hydatidiform mole. The bulk of it had come away spontaneously, but some weeks after the interior of the uterus was explored on account of a persistent metrorrhagia.

Portions of the hydatidiform mole were then felt projecting at the fundus, and were easily removed, but the finger did not come down to firm, healthy uterine wall. As more and more of the separable material was detached, the finger sank more and more deeply into the wall of the uterus, till it was very nearly, if not quite, in contact with the peritoneal coat.

In this case of hydatidiform mole, although I felt doubtful whether the whole of the mole had been removed, the patient ultimately made a satisfactory recovery without further interference.

To return to the present case (E. W.). Pure tincture of iodine was applied to the whole of the endometrium. The uterus was washed out with iodine water, and a strip of iodoform gauze was left in the vagina; this was removed on the following day.

The temperature subsequent to the dilatation did not rise above normal, but the red discharge persisted more or less during the patient's stay in the Hospital on this occasion, though she was constantly taking ergot, and having hot vaginal douches.

She went out on January 4th, 1897. At that time her weight was 6 st. 7 lbs.

Readmission.—She was readmitted on January 13th, 1897, as the metrorrhagia had persisted, and there had been two floodings during the few days she was at home. On one occasion it was said that she had passed as much as half a chamberful of blood with clots.

State on January 21st, 1897.—The patient was not markedly anæmic.

On examining the abdomen nothing abnormal could be felt.

On vaginal examination there was a little blood seen about the vaginal orifice, and the uterus was found to be enlarged to about the size of the pregnant uterus at seven or eight weeks. It was freely movable, and soft.

She was treated with hot vaginal douches, and took grs. iii. of ergotine three times a day up to the 29th inst. During this time there was no improvement. She suffered

from a good deal of pain in the lower abdomen, from backache and pain down the left leg as far as the knee, and the red discharge continued.

On January 30th the cervix was again dilated. The following note was made as to the condition of the endometrium :—

"Tracing the anterior wall of the uterus from left to right with the finger in the uterus, it is found to be smooth. The posterior surface similarly traced is smooth on the left side and at the lower part. A convex projection is felt about an inch above the internal os uteri: the surface of the endometrium over it is smooth. Higher up near the fundus the surface of the posterior wall is rough, and proceeding to the right the finger comes to an edge, beyond which there is an irregular chasm, on the floor of which several brittle irregular projections are felt. Some of these are easily broken away with the finger. Bi-manually, when the finger is on the floor of the chasm, there seems to be little of the uterus except the peritoneal coat between the finger and the peritoneal cavity."

At the time of this examination I said to those present that if it were not for the patient's age (twenty-four) I should have no doubt that the case was one of carcinoma of the body of the uterus. As it was, I felt sure that the condition was due to a malignant growth, and that it seemed to have considerable resemblance to those cases that had been described under the name of "deciduoma malignum." I advised the patient to have the uterus removed.

Operation (*Vaginal Hysterectomy*), *February* 11*th*, 1897.—The patient was anæsthetised with ether, and placed in the lithotomy position. Vaginal hysterectomy was then performed, the principal steps of the operation being as follows :—

The anterior fornix was first incised, and the bladder separated as high as the internal os. Then the posterior fornix was incised, and the cervix cleared to the same height. The anterior and posterior transverse incisions were then joined by lateral incisions, the bleeding vessels

being secured with pressure forceps. Douglas's pouch was then opened, and then the vesico-uterine pouch of peritoneum. The broad ligaments were secured with pressure forceps, and divided. The left side of the uterus

Fig. 49.—The uterus removed in Case 29,* laid open along the anterior wall. The area of disease is at the fundus. (Sarcoma of the body of the uterus.)

was freed first. The uterus was then "delivered" into the vagina, and then the right broad ligament was secured, and divided. The uterus was then removed.

* The number refers to the Table of forty consecutive vaginal hysterectomies for cancer (p. 224).

Iodoform gauze was packed into the vagina; the upper part of the gauze projected into Douglas's pouch.

The patient made an uninterrupted recovery.

March 15th, 1897.—She was examined on this day, and at the top of the vagina there was seen a healthy granulating surface the size of a sixpence. She went home the next day.

Fig. 50.—The uterus from Case 29* (drawn on a much smaller scale than in Fig. 49). A sagittal section has been made through the posterior wall so as almost to bisect the uterus. The growth is at the fundus, and in places consists of somewhat circular nodules scattered through the substance of the uterine wall.

A. Points to the sarcomatous area.
B. Is a fibroid.
C. The anterior margin of the cut posterior wall.
D. The cut surface of the anterior wall.

The great thickening of the posterior wall in the neighbourhood of the growth is well seen.

Since she left the Hospital she has been up several times to see me. I have examined her on several occasions, and on each occasion I have found the scar at the top of the vagina quite sound. The last time on which I examined her was on February 27th, 1902, at the London Hospital.

* The number refers to the Table of forty consecutive vaginal hysterectomies for cancer.

I should have mentioned that my colleague, Dr. Percy Kidd, kindly examined her chest for me in the May following the operation; he found no evidence of anything wrong with the lungs.

Note on the Specimen: Naked-Eye Appearance.—"The uterus is laid open along the anterior surface. The extreme vertical measurement of the uterus is four inches and three-

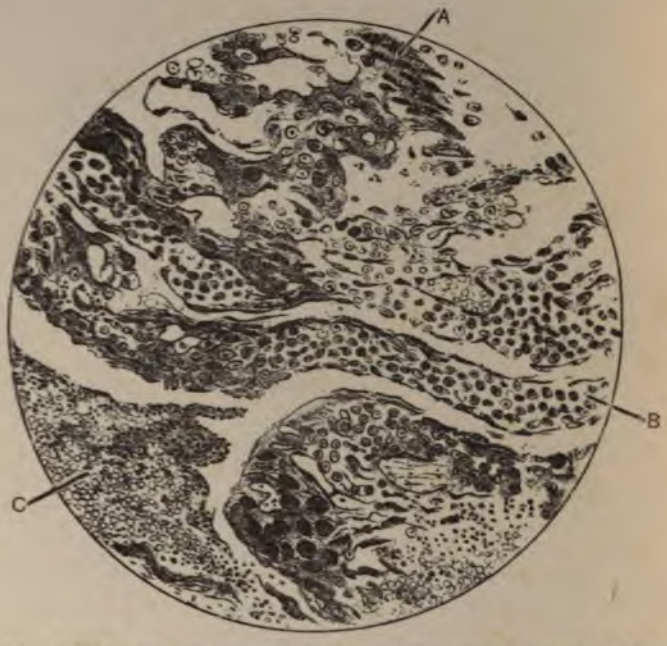


Fig. 51.—A high-power sketch of a portion of the growth, which at this spot is composed of irregular polynucleated plasmodial masses (A) and strands of small round well-defined cells (B). The remainder of the field consists of recent blood-clot (C) and fibrin (Mr. Targett's description).

quarters. The anterior wall of the uterus is nearly an inch thick. The cervical canal and the lower half of the cavity of the uterus appear normal. The fundus, and the posterior wall of the body of the uterus in its upper half, are the parts affected by the growth. The posterior surface of the endometrium in its upper half is pushed forwards by the growth, so as to form a convex projection towards the body of the uterus. As regards the lower half or so

of this projection, its surface towards the endometrium is fairly smooth, but at its upper part there is an irregular cavity into which the finger passes as described in the course of the clinical examination. Here the tissues are sloughy and offensive. A sagittal section was made through the posterior wall of the uterus from the fundus to the level of the internal os. From before back the

Fig. 52.—This represents under a higher power the rounded indifferent cells in the centre of the field. They have a darkly stained nucleus, a clear cell-body, and a well-defined outline. The plasmodial masses, or syncytium, are in the form of flattened layers of very granular protoplasm, which is nucleated, but not clearly divided into cells (Mr. Targett's description).

thickness of the posterior wall of the uterus near the fundus is found to be one inch and five-eighths. The cut surface of the posterior wall shows that the growth involves nearly the whole thickness of the wall of the uterus at this level. The colour of the growth (in the recent state) is a deep red. The surface of the section to the naked eye shows that the growth is composed of

a main portion, roughly speaking the size of a walnut, from which off-shoots spread backwards and downwards into the thickness of the uterine wall. Some of the deeper portions of the growth take the form of somewhat circular nodules of a deep-red colour varying in size. One, for example, the size of a pea, is seen (on the left half of the cut posterior wall) almost touching the peritoneum: it is apparently isolated from the adjoining part of the growth. At a distance of half an inch from the lowest part of the growth there is a subperitoneal fibroid ($\frac{3}{8}$ in. × $\frac{1}{2}$ in.) in the posterior wall of the uterus."

Minute Structure of the Growth.—I sent several portions of the growth to the Clinical Research Association. Mr. Targett examined the sections, and Dr. Eden, at Mr. Targett's suggestion, kindly examined them also. They have embodied their views in a joint report, which is as follows:—

Report on Dr. Lewers' Specimen of Malignant Disease of the Uterus (E. W.).

"*Microscopical Examination.*—Portions of tissue were taken from:

"(*a*) Growing margin of tumour.

"(*b*) Nodule projecting into the uterus.

"(*c*) Mucous lining of uterus near the cervix and away from the disease.

"*Margin of Growth.*—Sections from this part show a rounded nodule of new growth imbedded in the muscular substance of the uterus. The uterine tissue at some distance from the new growth exhibits much congestion of the vessels and inflammatory changes, with rows of small cells infiltrating the muscular bundles, as in acute metritis. On approaching the nodule of growth the inflammatory exudation becomes more abundant, and the muscular tissue is absorbed or obscured. The nodule of growth presents for examination the following elements:—

"(1) Strands and irregular masses of cells stained red.

"(2) Smaller cells, with round nuclei stained blue.

"(3) Groups of inflammatory cells.

"(4) Large extravasations of blood.

"The growth is not truly alveolated, but by means of strands, or trabeculæ, of large (red) cells the smaller (blue) elements are imperfectly grouped into rounded areas of various sizes. Under a high power it is seen that these strands or trabeculæ consist of nucleated masses of protoplasm which have stained red with eosin, and for the

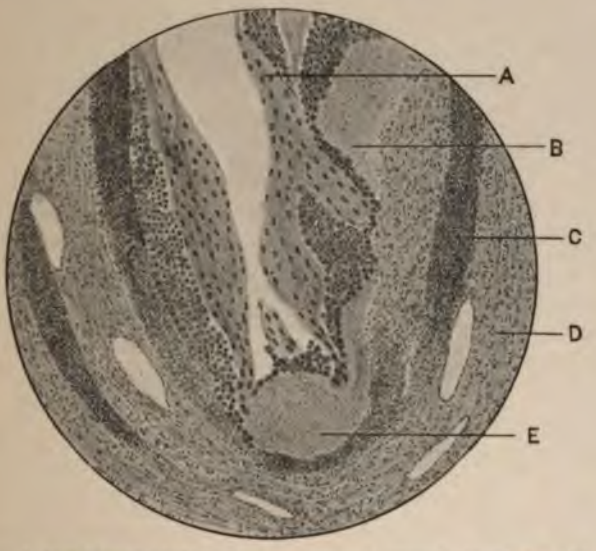


Fig. 53.—A low-power sketch of a process of growth invading the uterine muscular tissue. The peripheral layers of cells are formed of rounded well-defined elements having a distinct nucleus; but the centre of the process consists of irregular plasmodial masses of nucleated protoplasm without any definite cell-outlines. In addition, there is much small-celled inflammatory infiltration of the muscular substance, and large extravasations of blood around the process of growth (Mr. Targett's description).

A. The plasmodial layer or syncytium.
B. Layer of indifferent neoplastic cells.
C. Small-celled inflammatory change.
D. Uterine muscular tissue.
E. Fibrin from old extravasations of blood.

purposes of description may be called 'plasmodial masses.' They vary considerably in shape and general appearance. Some form polyhedral masses with large round nuclei,

others resemble strands of closely packed spindle-shaped cells with oval and even much elongated nuclei. But whatever their shape, it may be said that the 'plasmodial masses' have these features in common: They are composed of granular protoplasm, in which no distinction between the outlines of the component cells can be recognised: they are provided with large vesicular nuclei, which in many places are very numerous; the peri-nuclear protoplasm presents numerous vacuoles, and they exhibit certain staining reactions by which they are distinguishable from the second class of cells above mentioned.

"These smaller cells stain blue with hæmatoxylin, having the characters of sarcomatous cells; their outlines, though not very distinct, are for the most part rounded, and they possess round nuclei, which are very uniform in size, but considerably smaller than those of the 'plasmodial masses.' Where the sarcomatous cells lie in contact with the 'plasmodial masses,' threads of the latter tissue can be traced for some distance between the cells, thus forming an intercellular network which is stained red like the plasmodia.

"*Nodule Projecting into Uterus.*—Sections from this portion of the growth are characterised by extensive extravasations of blood, which have broken up the neoplastic tissue and more widely diffused inflammatory exudation. In its minute structure the new growth resembles that already described, but the 'plasmodial masses' seem in greater abundance than the sarcomatous tissue.

"*Mucous Lining of Uterus.*—A portion of the uterine wall at some distance from the growth has an imperfect lining of epithelium, possibly the effect of a previous curetting, but there are no morbid appearances in the glandular follicles, nor in the yellowish tissue of the endothelium.

"The tumour may be described as a soft, rapidly growing sarcoma, with much surrounding inflammatory change, and large extravasations of blood.

"*Histologically* it is noteworthy in the possession of many nucleated plasmodia, which, although more abundant, do not materially differ from the plasmodic masses found

in many soft sarcomata of rapid growth occurring in many other parts of the body than the uterus.

"T. W. EDEN.
"J. H. TARGETT.

"*May 26th*, 1897."

Seeing that the growth is identical with that known under the name of "deciduoma malignum," an important question arises as to what is the evidence that the patient was ever pregnant at all. I am bound to say that it seems to me that the evidence is very slight. She had only been married twelve months, and in that time thought she had had three miscarriages; but in each case the pregnancy, when the supposed miscarriage took place, was of very short duration. In the first case only two months, in the second case five or six weeks, and in the third case only three weeks. It is well known how commonly a menstrual period or two may be missed in the newly married without the occurrence of pregnancy, and the only ground on which this patient thought herself pregnant on these three occasions was because she had "gone over her time." Again, although missing a period is generally, perhaps, to be taken as giving a fair presumption of pregnancy in healthy married women, this is only true in a patient who has been habitually regular. Now in the present case the patient had always been irregular until the date of her marriage. There had often been intervals of two, three, or four months between the menstrual periods. It really seems, therefore, that in her case, to assume pregnancy because she was slightly over her time would most probably be incorrect. I do not think we can go further than this, that on the facts it is extremely probable that the woman was never pregnant at all.

Another point telling in the same direction has already been alluded to in giving the history of the case. She said her illness dated from the time of the first miscarriage, and that she had had a constant red vaginal discharge since then. On the other hand, as regards the first, second, and third miscarriages, being asked why she thought they were miscarriages, she said because she had

"gone over her time without seeing anything." I think the discrepancy may probably be explained in this way: that she had had actually a slight blood-stained discharge ever since the date of the first supposed miscarriage, and that she regarded this discharge, when it was only slight, as amenorrhœa. In this way she would have been misled into supposing herself pregnant on the second and third occasions. When a more severe loss of blood occurred she regarded this as a miscarriage. The presence of a fibroid in the uterus also tells against the view that the patient had been pregnant.

On the whole, therefore, it seems most likely that the case was one of a malignant (sarcomatous) growth of the body of the uterus, practically identical in appearance and histological characters with that described under the name of "deciduoma malignum," occurring in a woman twenty-four years of age who had in all probability never been pregnant. It does, on general grounds, appear to be somewhat unlikely that if there were a *causal* instead of an *accidental* relation between pregnancy and the growth generally known as "deciduoma malignum," cases of the kind should be so exceedingly rare. During the whole time I have been on the staff of the London Hospital—now a period of seventeen years—I have only had two cases of sarcoma of the body of the uterus under my care. One is the case just recorded, and the other occurred in 1885, and was recorded in Vol. XXVIII. of the *Obstetrical Society's Transactions*, p. 78. It is given in full on p. 269.

After-Results of Vaginal Hysterectomy for Primary Cancer of the Body of the Uterus.—Among the forty cases of vaginal hysterectomy (*see* Table IV., p. 224) there were eleven cases in which the operation was performed for primary malignant disease of the body of the uterus. These are Nos. 1, 3, 5, 7, 8, 11, 24, 28, 29, 32, 38. As I have not in my own experience met with any case where the disease recurred later than during the fourth year after operation, I am disposed, as a general rule, to consider four complete years without recurrence as equivalent to a cure. On this basis there are five (or 45 per cent.) out of the eleven cases (Nos. 7, 8, 24, 29, 32) which may

be considered as cured, from four to nearly eight years having elapsed without recurrence.

The notes of the five cases in which the disease has not recurred are as follows:—

Fig. 54.—Low power. Case 7.* This figure depicts the general characters of this growth under a low power. In the muscular tissue of the uterus there are spaces of various sizes, from simple gland-like tubules to cysts visible to the naked eye, and filled with a complicated epithelial new growth. This growth has resulted from proliferation of the columnar epithelium lining the tubules, and has assumed in part the form of intra-cystic villous papillomata. At the periphery of the largest space the malignancy of the growth is shown by extension of solid processes into the adjacent uterine tissue (Mr. Targett's description for the Clinical Research Association).

CASE 7.*—

Mrs. D. The patient was fifty-three years of age. She had been married twenty-one years; she had had no children, but two miscarriages, each at about three months, the last thirteen years before I saw her.

* The number refers to the Table of forty consecutive cases of vaginal hysterectomy for cancer (p. 224).

I was asked to see her in consultation with Dr. Godson and Dr. Stott, of 1, Highgate Road.

The symptoms were continuous hæmorrhage for seven or eight months, with an occasional more profuse loss of blood, and severe pain in the hypogastric region.

On examination the uterus was found to be greatly enlarged, and freely movable. The vaginal portion of the

Fig. 55.—High power. Case 7.* In this figure two of these intra-cystic papillomata are represented. In the vascularity and delicacy of their structure they closely correspond with the fimbriated papilloma of the urinary bladder. The growth may be described as a villous carcinoma (Mr. Targett's description for the Clinical Research Association).

cervix was normal. The use of the sound occasioned very free bleeding. It was agreed that the best course would be to dilate the cervix, and examine the endometrium. This was accordingly done.

Two specially prepared laminaria tents were inserted,

* The number refers to the Table of forty consecutive cases of vaginal hysterectomy for cancer.

and the next afternoon the dilatation of the cervix was completed with Hegar's dilators, under anæsthesia.

There was a hard irregular condition of the inside of the body of the uterus. Nothing could be detached either with the finger, or with a curette. The diagnosis rested on the symptoms, and on the fact that the condition of the endometrium could not be classified as belonging to any non-malignant state.

I advised that vaginal hysterectomy should be performed, and I performed the operation on February 1st, 1893, assisted by Dr. Godson, Dr. Stott, and Dr. Sequeira, who was Resident Accoucheur at the London Hospital at that time. Mr. F. W. Braine gave the anæsthetic.

The patient made a good recovery.

A portion of the uterus was sent to the Clinical Research Association for examination, and Mr. Targett's report on it was as follows:—

"The growth of the uterus (Mrs. D.) is a columnar-celled carcinoma of the body, of the villous type. It has deeply invaded the muscular substance."

Fig. 48 shows very well the appearance presented by the uterus to the naked eye. Figs. 54 and 55 show the structure of the growth under the microscope.

This patient came to see me at my house on June 8th, 1900, just to show me that she was quite well. I also had a letter from Dr. Stott in July 1902, saying that he had met the patient in the street recently, and that she was quite well.

The interval in this case without recurrence is therefore more than nine years.

CASE 8.*—

L. S., a married woman aged fifty-seven, was admitted into the London Hospital under my care on May 1st, 1893. She was sent up to me by Dr. Best, of Dover.

She was born at Blackburn, in Lancashire. During her infancy her family removed to Crayford, in Kent. Her circumstances have always been comfortable. She had scarlet fever in childhood, and cholera in 1849.

* The number refers to the Table of forty consecutive vaginal hysterectomies for cancer (p. 224).

Menstruation.—The catamenia began when she was between fourteen and fifteen. There was some irregularity for the first ten months. After that she was very regular every four weeks, and did not lose very much. She always suffered a great deal of pain at the periods.

She was married at the age of thirty-three, and had six children, but no miscarriages. The last confinement was fourteen years ago.

Present Illness.—About two years ago the periods began to be irregular. She would "see nothing" for two or three months, and then the period would come on with an excessive loss, clots being passed. During the last eighteen months she had been losing blood constantly, and for the same time had suffered a good deal of pain, more severe at night, in the lower part of the abdomen.

She was closely questioned as to the time when the various symptoms arose, and it became clear that as long ago as two years there was a red discharge between the periods, and that for the greater part of the last two years she had had a good deal of pain in the back and lower part of the hips. She said also that she always had suffered during her periods from the time they began, but as she grew older the pain at the periods was not so severe until about two years ago, when it recommenced. The pain during these two years had been constantly present, and had increased in severity.

Present State, May 1st, 1893.—She was a stout woman, and as regards the appearance of her face she did not look ill. There was no cachexia. Her weight on admission was 12 st. 13½ lbs.

Nothing abnormal could be felt on examination of the abdomen.

On vaginal examination there was a considerable descent of the anterior vaginal wall, which protruded from the vulva. There was also an extensive rupture of the perineum, reaching back to the edge of the sphincter. There was also slight prolapse of the rectal mucous membrane.

Through the speculum the vaginal portion of the cervix appeared healthy. The uterus was fairly movable, and in the normal position. The body of it was somewhat

enlarged, and the sound passed three inches and a quarter, causing rather free bleeding.

She was kept under observation in the Hospital during

Fig. 56.—Primary carcinoma of the body of the uterus. The uterus removed in Case 8,* and laid open.

A. Peritoneum.
B. Cut surface of uterine wall.
C. Growth in endometrium "a soft columnar-celled carcinoma."
D. Cervical canal.

the whole of May, and during that time there was a constant red vaginal discharge, and she complained of

* The number refers to the Table of forty consecutive vaginal hysterectomies for cancer (p. 224).

pain about the lower part of the abdomen, more severe at night.

On May 31st, at 5 p.m., two specially prepared laminaria tents were inserted into the uterus with strict antiseptic precautions, and on the following day (June 1st), at 2 p.m., she was anæsthetised with ether. The tents

Fig. 57.—Low power. Case 8.* This figure represents a portion of uterine wall composed of interlacing bundles of muscular tissue, and extensively infiltrated by a soft columnar-celled carcinoma. The cells are arranged in tubules and elongated spaces, which have a definite lumen, and the stroma, consisting of uterine muscle, is very scanty (Mr. Targett's description for the Clinical Research Association).

were removed, and it was found that the cervix admitted the index finger easily. The uterus was drawn down to the outlet with a volsella. The finger was passed into the uterus, and detected a hard irregular condition of the

* The number refers to the Table of forty consecutive vaginal hysterectomies for cancer (p. 224).

endometrium; this was particularly marked at the upper part and to the right.

I could not classify the condition as resembling any non-malignant pathological state, and I came to the conclusion that the case was one of primary carcinoma of the body of the uterus. It should be mentioned that

Fig. 58.—High power. Case 8.* In this figure the columnar character of the cells is shown, and although the tubules and alveoli everywhere exhibit a central cavity or lumen, yet there are abundant signs of epithelial proliferation, and the cells encroach on the central space. In the well-marked tubular structure of the growth this specimen resembles the so-called malignant adenoma (Mr. Targett's description for the Clinical Research Association).

nothing could be scraped away from the endometrium with a curette.

Operation, June 8th, 1893.—The patient was anæsthetised with ether, and placed in the lithotomy position. The

* The number refers to the Table of forty consecutive vaginal hysterectomies for cancer (p. 224).

vulva and vagina were thoroughly disinfected with perchloride of mercury lotion (1 in 1,000). Having drawn down the cervix, the anterior fornix was incised first, and the bladder separated from the cervix as high as the internal os. The posterior fornix was then similarly incised, and Douglas's pouch opened. The cervix was cleared laterally as high as the level of the internal os, pressure forceps being used to control the bleeding where necessary. The utero-vesical pouch of the peritoneum was then opened. The remaining attachments were clamped piece by piece, the left broad ligament being first secured and divided. The uterus was then as it were "delivered," the left side of it first, so that at this stage it was hanging by the right broad ligament. The latter was then secured with pressure forceps, and divided. The uterus was then removed.

The vagina was filled with iodoform gauze, the upper part of the plug projecting an inch or so into Douglas's pouch.

The patient's progress after the operation was very satisfactory. The highest temperature in the first week was 100·8° on the evening of June 11th. On one occasion in the second week (June 16th) it reached 101·4°. After June 20th the temperature was practically normal, only once after that date reaching 100°.

The pressure forceps were removed on the afternoon of June 10th.

The patient went home on July 21st, 1893.

I have seen her every summer, except that of 1901, since the operation, and have examined her. So far she has remained free from any sign of recurrence, and appears to be in perfect health. She came up to the London Hospital on August 7th, 1902, to see me, but, as I had an operation in the country on that afternoon, I did not see her. She has since written to me saying she is in good health, and has no hæmorrhage, and that she can come to see me any day after September 5th.

The last time the patient was examined was on July 19th, 1900, at the London Hospital. There was no sign of recurrence, and she was quite well.

A portion of the growth was sent to the Clinical

Research Association for examination, and the report on it was as follows:—

"This growth from the body of the uterus is a columnar-celled carcinoma in which the tubular arrangement of the cells is well preserved. The tissues have shrunk in hardening, but the sections are sufficiently good for microscopical drawings." Fig. 56 represents the appearance of the uterus to the naked eye, and Figs. 57 and 58 the appearance of the sections under the microscope.

CASE 24.*—

Mrs. A. H., a married woman, aged forty-eight, was admitted into the London Hospital under my care on August 21st, 1895, at the request of Dr. Aspland.

Previous History.—She had been married twenty-one years, but had been a widow for fifteen years. She had never been pregnant.

The catamenia appeared when she was about fifteen years old. She had dysmenorrhœa when she was single, but suffered much less from this after her marriage. The menopause occurred about three years ago.

Present Illness.—She had not been well for some time. For the last seven or eight months she had had a yellow vaginal discharge, which had been mixed with blood more often than not. She had no pain when the discharge began, but for the last two months she had had pain in the left iliac region occasionally. It had gradually become more severe, and was also felt at times across the abdomen and in the lower part of the back. It was clear, however, that a blood-stained discharge, and the feeling of not being in good health, were for some months the only symptoms.

On admission she said that she felt weaker than formerly, but did not think she had lost flesh. Her appetite latterly had not been good.

State on Admission.—Nothing abnormal was detected on examination of the abdomen.

* The number refers to the Table of forty consecutive vaginal hysterectomies for cancer (p. 224).

On vaginal examination some blood-stained discharge was seen about the vaginal orifice and in the vagina. It was not offensive. The uterus was found to be strongly retroflexed. The vaginal portion of the cervix was

Fig. 59.—Shows the uterus removed from Case 24,* and laid open. The growth forms a somewhat spherical projection, about the size of a Tangerine orange, at the fundus.

rather soft, but otherwise normal. The uterus was easily replaced with the sound, which passed three inches and a quarter.

* The number refers to the Table of forty consecutive vaginal hysterectomies for cancer (p. 224).

On bi-manual examination the uterus was found to be freely movable, and the body of it uniformly enlarged.

On August 23rd two small laminaria tents were put into the cervix, and on the next day the dilatation of the cervix was completed under anæsthesia with Hegar's dilators up to No. 19.

Fig. 60.—Low power. Case 21.* Represents a soft glandular-celled carcinoma invading the body of the uterus. The cells are arranged in elongated alveoli, and a strand of muscle tissue crosses the section. At the highest point in the field the growth has undergone granular degeneration and necrosis (Mr. Targett's description for the Clinical Research Association).

On passing the finger into the uterus, a growth the size of a fairly large walnut was found projecting from the posterior wall near the fundus. It had a coarsely papillary surface, and was very friable, portions of it being easily broken off with the finger.

* The number refers to the Table of forty consecutive vaginal hysterectomies for cancer (p. 224).

Operation, August 30*th*, 1895.—Vaginal hysterectomy was performed, the steps of the operation being similar to those adopted in the preceding cases.

The pressure forceps and gauze were removed on the fourth day, and the patient made an uninterrupted recovery, leaving the Hospital on September 23rd.

A portion of the growth was sent to the Clinical

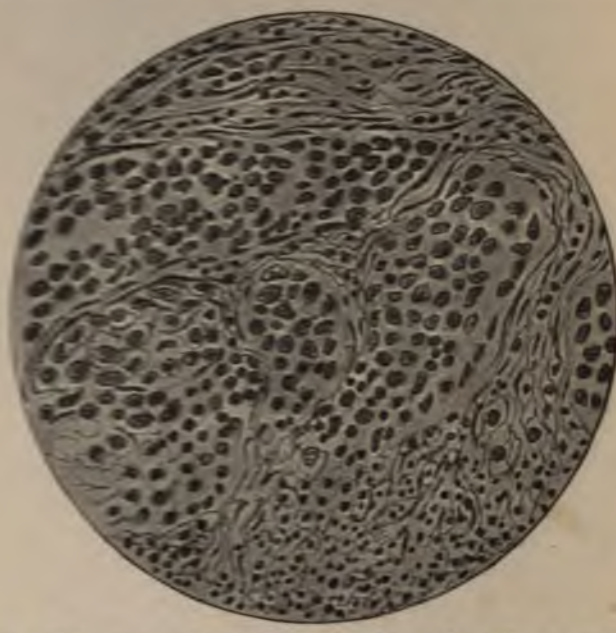


Fig. 61.—High power. Case 24.* In this figure the cells are seen to be of moderate size and fairly uniform shape. There is no indication of a tubular arrangement, and the small round nuclei indicate leucocytes invading the degenerate areas (Mr. Targett's description for the Clinical Research Association).

Research Association for examination, and the report on it was as follows:—

"The growth from the body of the uterus is a soft, glandular-celled carcinoma, which has extensively infiltrated the muscular substance. The growth is of the

* The number refers to the Table of forty consecutive vaginal hysterectomies for cancer (p. 224).

columnar-celled type, though the tubular arrangement of the cells is not recognisable in the section."

I had a letter from this patient in May, 1900, to say that she was still quite well. The interval since the operation is therefore nearly five years.

CASE 29.*—

The notes have already been given on p. 273.

CASE 32.*—

Mrs. B., aged sixty-one, was seen by me in August, 1897.

Previous History.—She had been married many years, and had had two children, the last twenty-eight years ago, and no miscarriages. Nine years ago she had had a fall on the ice, and thought she had noticed more or less vaginal discharge—at times red—ever since then. She said that for the two months before I saw her there had been a red vaginal discharge every day, and that on August 12th she had a flooding, the amount of blood lost being estimated at a pint. She also complained of having some pain in the lower part of the back.

The menopause was said never to have occurred; at all events she was quite unable to give any definite account of any long interval during which she had ceased to see any red discharge. The catamenia appeared when she was fourteen.

On examination nothing abnormal could be found in the abdomen.

Several mucous polypi were felt hanging from the neighbourhood of the external os uteri. The uterus bi-manually appeared to be distinctly and uniformly enlarged. I felt quite certain that the mucous polypi, which were all that the examination had so far discovered, could not have caused a loss of blood amounting to a pint. I therefore advised the patient to have the cervix dilated, so that the inside of the uterus could be examined.

* The numbers refer to the Table of forty consecutive vaginal hysterectomies for cancer (p. 224).

This was accordingly done a few days later. The mucous polypi were removed, and had all the appearance of ordinary mucous polypi. After dilating the cervix the finger was passed up into the cavity of the body of the uterus, and a distinct growth was felt near the fundus. A small portion of this was removed for microscopic examination. It was sent to the Clinical Research Association, and the report came back that it was carcinoma. Accordingly I advised the patient to have the uterus removed, and she consented.

Vaginal Hysterectomy, September 4th, 1897.—The operation was performed in the way that has been described in other cases. Forceps were used to secure the vessels, and the usual iodoform gauze plug was inserted. The forceps and gauze were removed on the fourth day.

The patient made a perfectly satisfactory recovery.

I have fortunately been able to hear from the patient about the time of the anniversary of her operation every year up to the present time. The last time was on October 4th, 1901—that is to say, four years since her operation—and she remains in perfectly good health, and free from any signs of recurrence.

It should have been mentioned that her doctor was Dr. Pope, of Kington, Hereford.

The specimen and sections of it were shown at a meeting of the Royal Medical and Chirurgical Society of London in November, 1900.

As regards the remaining six cases of vaginal hysterectomy for primary cancer of the body of the uterus, *recurrence* took place in three cases as follows:—

In one case (No. 1) during the first year after the operation.

In one case (No. 5) during the third year after the operation.

In one case (No. 28) during the fourth year after the operation.

Two cases (Nos. 11 and 38) have been lost sight of.

One case (No. 3) was of doubtful malignancy—*i.e.* clinically it seemed to be cancer, but microscopically proof of cancer could not be obtained.

Recurrence during the First Year.

Case 1.*

A. R., aged fifty-eight, was admitted into the London Hospital under my care on February 26th, 1886. She was married in 1859; her husband left her three months and a half after marriage. She had had one child, which was stillborn, and had never been pregnant since.

There was no history of cancer, or phthisis, in the family.

Before her marriage she had been a nurse at the London Hospital, and she had gone out as a nurse during the Crimean War.

History of the Present Illness.—She complained of having been constantly "unwell" for the last ten months, and of having had severe pain "at the bottom of the stomach," reaching down the thighs to the knees, for two months. The vaginal discharge had been watery, slightly blood-stained, and at times offensive.

Shortly before the commencement of her illness she had lost some money in business, and had fretted a good deal about it.

In May, 1885, she became "unwell" very suddenly. The discharge was of a deep red colour, and came away with clots; she had no pain at the time. The discharge continued for six weeks or two months; it then stopped for a day or two, but afterwards returned. She had lost flesh, and latterly had lost her appetite. The pain was always much worse at night, and kept her awake. She was often doubled up with pain. It was never relieved by lying down; if anything, this made it much worse.

Menstrual History.—As regards the menstrual history, the only point of interest was that the menopause occurred early—when she was only thirty-eight years of age—and since then she had "seen nothing" till ten months ago.

* The number refers to the Table of forty consecutive vaginal hysterectomies for cancer (p. 224).

Present State, February 26th, 1886.—There was some tenderness in the right hypogastric region.

On local examination there was some vulvitis, such as is produced by irritating discharges. On asking the patient to strain, a watery yellow discharge escaped from the vagina. The vagina was short: one very sharp "bridle" ran outwards from the left side of the cervix to the adjacent vaginal wall. The vaginal portion of the cervix was normal. A hard lump the size of a cobnut was felt posteriorly, apparently in the supra-vaginal cervix.

Examination caused her a good deal of pain. A further examination was therefore made under anæsthesia. The uterus was then found to be freely movable. The body could be felt bi-manually lying rather to the right of the middle line in a position of anteversion. The body of the uterus was enlarged considerably, taking into account what would be the normal size of the uterus at the patient's age. Through the speculum, before passing the sound, some blood-stained discharge was seen escaping from the external os. After passing the sound, small fragments of a soft brain-like material came away.

Operation, March 1st, 1886.—The uterus was extirpated *per vaginam*. On account of the narrowness of the vagina the perineum was incised as a preliminary step, to give more room. The method adopted was practically the same as that already described on page 58. The broad ligaments were transfixed, and tied in two halves with stout silk: the lateral attachments of the cervix on each side had been tied with silk ligatures previously, and divided. When the uterus was quite free, all its attachments having been divided, considerable difficulty was met with in getting it out on account of its size; it could not be retroverted, and brought out fundus first. It was eventually brought out cervix first, and fundus last. The wound in the perineum was closed with silver sutures: the ends of the broad ligaments were adapted between the edges of the wound. A small drainage-tube was left projecting half an inch into Douglas's

pouch. The vagina was filled with eucalyptus gauze, freely sprinkled with iodoform. The drainage-tube was found loose in the vagina two days afterwards.

The operation lasted an hour and forty-eight minutes.

On removal, the uterus was found to weigh seven ounces.

On opening it an extensive papillary growth was seen projecting into the cavity of the body; the growth occupied the right side of the cavity. Its attachment was separated from the adjacent healthy mucous membrane by a sharp line of demarcation. A few nodules the size of peas showed through the peritoneum near the fundus, forming somewhat white elevations on the peritoneal aspect.

Subsequent Progress.—The highest temperature after the operation was on the evening of the second day, when it reached 102·2°. From and including the fifth day the temperature was normal, and the patient made an uninterrupted recovery.

The patient was seen after leaving the Hospital from time to time, but with great difficulty, as she would not come up to show herself at the Hospital, and had to be followed from one address to another in the East of London. During this time she enjoyed good health and was free from pain.

In October, 1886, an examination was made, and no return of the disease found.

She was not seen again till the end of January, 1887, when, although about her work as usual, she was getting thin again, and for about a month had had bad pains across the lower part of the back and down the left leg, and also a profuse watery discharge, at times red; but she had not lost much blood. She had also been suffering from boils. She would not be examined on that occasion, and it was not till a week or two later that an examination was made. Then a lump the size of an orange was felt filling the upper part of the vagina. It was fixed, and the surface towards the vagina was ulcerated, and bled readily.

The patient was readmitted to the Hospital, and gradually went from bad to worse, dying on July 7th,

1887, sixteen months and seven days after the operation. For some weeks before her death a hard mass could be felt on abdominal examination in the region of the umbilicus.

Post-Mortem. — Post-mortem there was found some recent adhesive peritonitis in the pelvis. A hard mass occupied the greater part of the pelvic cavity, particularly filling its left side. The mass in the umbilical region lay on the lumbar vertebræ, and was about the size of an orange: it appeared to be due to secondary deposit in the lumbar glands. No secondary deposits were found in the liver, lungs, or other organs. There was hydronephrosis of the left kidney. The right kidney was fairly healthy, but its capsule could not be separated without tearing the substance of the kidney. There had been no symptoms of uræmia.

Sections of the growth in the uterus removed at the operation showed that the growth was a primary carcinoma.

The date of the operation was March 1st, 1886—that is to say, sixteen years ago. At that time vaginal hysterectomy was far from having reached the position of a thoroughly established operation such as it holds at present. The operation just described was the first vaginal hysterectomy that I had ever performed, and I may add that I had never seen the operation performed by any other operator. I am under the impression that this operation was also the first vaginal hysterectomy for cancer performed in the London Hospital.

This case was recorded in the *Transactions of the Obstetrical Society of London* for 1888 (Vol. XXX., p. 218).

Recurrence during the Third Year.

Case 5.*—

J. T., aged forty-four, was admitted into the London Hospital under my care on February 24th, 1892.

Previous History.—Till about a year ago she always

* The number refers to the Table of forty consecutive vaginal hysterectomies for cancer (p. 224).

lived comfortably and had plenty to eat and drink. As regards stimulants, she had only taken a glass of beer occasionally. She was in service before she married. She had been married twice, the first time when she was twenty-four, and the second time when she was forty-three. She had never had any children, or miscarriages.

The catamenia appeared when she was twenty. She had been regular every three weeks. The periods lasted a week, and she lost a full quantity each time. She had no pain or discomfort at her periods till six or seven years ago.

Family History.—Her father died of "old age." She does not know the cause of her mother's death. She had one brother, who, when she last heard of him, was "not in his right mind."

History of the Present Illness.—She was quite well till about seven years ago. About that time she began to have pain in the right groin, going round to the back at the menstrual periods. She had then no pain whatever between the periods, and apparently—till at all events the last few months—her general health seemed to have been fairly good. She herself only dated her illness from Christmas, 1891—that is, about two months only before her admission to the Hospital. Up till Christmas last she had continued to menstruate regularly every three weeks, and had no pain between the periods, nor was there any intermenstrual discharge till then.

Since Christmas, 1891, she had not had any severe pain, but there had been an almost constant red vaginal discharge between the periods. Since then a week is the longest time she had gone without seeing some red discharge. She had lost flesh considerably, but the appetite had been good, and she had been able to sleep well. During the last three weeks she had found a difficulty in holding her water when lying quiet in bed. There had been no offensive vaginal discharge.

State on Admission.—The patient was very markedly anæmic, her expression somewhat anxious, and her general condition feeble. There was no evidence of any organic

disease in the chest, but there was a loud systolic murmur, best heard at the base, which seemed sufficiently accounted for by the extreme anæmia. The heart's apex beat was in the normal position. The pulse was 84. The urine was normal.

March 1*st*, 1892.—The following note was made:—

"No distinct swelling can be felt in the hypogastric region on simple abdominal examination. On bi-manual examination the uterus is considerably enlarged, and in a position of anteversion. The external os is rather patulous, and there is a small mucous polypus attached just within it. The sound passes three inches and a half. The discharge from the os uteri is sanious, but not offensive."

At this time my opinion was that the case was probably one of uterine fibroid. On further consideration, however, and taking into account that, although she had suffered from dysmenorrhœa for six or seven years, her illness had come on somewhat acutely and had only lasted two or three months, and having in mind that she was at the time of admission much more anæmic than is commonly the case in patients with uterine fibroids, it seemed to me that the case called for further investigation, and accordingly I decided to dilate the cervix, and explore the endometrium.

On March 9th I inserted three laminaria tents, and on the next day examined the patient under anæsthesia. After removing the tents the finger passed easily into the uterus, and found an extensive soft brittle growth on the posterior surface of the endometrium, chiefly to the right of the middle line. Yellowish-white pieces of the growth came away as the finger was withdrawn. The uterus was freely movable, and there was no evidence of extension either to the broad ligaments, or to the utero-sacral ligaments. The discharge on the examining finger was not in the least offensive.

The result of the examination satisfied me that the case was one of primary malignant disease of the body of the uterus, and the subsequent microscopical examination of the specimen fully confirmed this view, the growth being a typical carcinoma.

The patient readily consented to operation, and accordingly I proceeded to remove the uterus on March 17th, 1892.

Note on the Operation.—In the morning, and again at midday a vaginal douche of 1 in 1,000 corrosive sublimate lotion was given. The patient was anæsthetised with the A.C.E. mixture. A vaginal douche of 1 in 1,000 sublimate lotion was given, and the cervix drawn down to the orifice of the vulva with two volsellæ. The anterior fornix was incised first, then the posterior, and then the ends of the incisions were joined gradually. The bladder was easily separated as high as the vesico-uterine pouch. Douglas's pouch was then opened. The lateral attachments of the cervix were clamped, and the cervix thus cleared as high as the level of the internal os uteri. The vesico-uterine pouch of the peritoneum was then opened. So far no difficulty had been met with. Examining now with one finger in Douglas's pouch and one anteriorly, it became evident that there would be great difficulty in getting the uterus out, on account of its size. At one time I thought of overcoming the difficulty by splitting the uterus in two, as has been done by various operators; but when I had done so as far as the upper limit of the cervix, there seemed to me to be great risk in continuing to divide the uterus, for fear of injuring adjacent structures, and I gave up the attempt. At last, by exercising a very strong traction on the uterus towards the left, I was able to get my finger above the right broad ligament. This I clamped outside the ovary, and divided it. By steady pulling the right side of the uterus was gradually brought into view, and then the fundus. The uterus was now only attached by the left broad ligament. This was easily clamped between the uterus and the ovary. The left broad ligament was then divided, and the uterus removed. A cyst the size of half a walnut was met with in the left broad ligament. It was punctured, and a little clear fluid came out of it.

A douche of iodine water (℥i Tinct. Iodi to the pint of water) was then given, some of it passing well

Douglas's pouch. There were four pairs of large forceps left on, and two pairs of small forceps. Dry carbolic gauze was packed into the vagina, a T-bandage was put on, and the patient put into bed.

It should have been mentioned that, owing to the narrowness of the vagina, it was found necessary to make additional room by incising the posterior vaginal wall, and the perineum.

The operation lasted one hour and ten minutes.

Subsequent Progress.—The patient made an uninterrupted recovery, but she was several times sick during the first forty-eight hours after the operation, the last occasion on which she vomited being at twelve noon on March 19th (the second day). The gauze plug was taken out on the 18th, and the pressure forceps were removed at 5 p.m. on the 19th. After the removal of the forceps, douches of weak iodine water were given every six hours for several days.

As regards the pulse and temperature, the temperature on the evening of the day after the operation (March 18th) was 99·4°. On the 19th the pulse was 100, and the temperature 99·8°. The temperature was about 100° for seven days after the operation. On the evening of the seventh day it was 101°, and on that of the ninth day 102·2°, which was the highest temperature recorded. On the tenth day the temperature was 100°, and on the eleventh day 98° in the morning. After that day there was no rise above 100°.

It will be noticed that the highest temperature occurred about the time when the sloughs in the neighbourhood of the wound might be expected to be separating.

On April 7th she was examined, and the following note was made:—

"At the upper part of the vagina there is a cavity about an inch in diameter and about half an inch to threequarters of an inch deep. It has the appearance of a healthy granulating wound. The abdomen is flaccid, and not tender."

On April 14th she was examined again, and the raw

surface at the top of the vagina was then only the size of a sixpence.

On May 5th the wound was found to be healed, except for a little granulation the size of a pea.

On May 19th the wound was soundly healed.

As regards the Weight.—On March 2nd (that is, before the operation) the patient weighed 7 st. ½ lb.; on April 21st, 6 st. 12 lb.: and on May 11th, 7 st. 7 lb.

Note on the Specimen.—"It was measured and weighed after being two years in spirit. The extreme length of the uterus is 4½ in., and the thickness from before back, 2⅛ in. The breadth from side to side could not be well measured, as the uterus had been opened, and hardened. The weight of the uterus is 6 oz. Microscopically, the growth is a columnar-celled carcinoma."*

After-History.—The patient came to see me regularly at the London Hospital, and I examined her from time to time. When I examined her in September, 1894—that is to say, two years and a half after the operation—she was quite well, and there was no sign of recurrence; but unfortunately the disease recurred towards the *end* of the *third* year after the operation.

Recurrence during the Fourth Year.

Case 28.†—

F. I., aged forty-nine, was admitted into the London Hospital under my care on October 14th, 1896.

Previous History.—She had been married twenty-seven years, and had had one child twenty-five years previously. She had had no miscarriages. She had had rheumatic fever fourteen years ago, and again three years ago.

Menstruation.—The catamenia began at the age of thirteen, and she was regular every four weeks.

Family History.—Her father died at the age of eighty-eight of "old age"; her mother died at the age of

* Fig. 46 represents the appearance of the growth after the uterus had been removed, and laid open.

† The number refers to the Table of forty consecutive vaginal hysterectomies for cancer (p. 224).

thirty-six of cholera, in Poland. Three of her maternal uncles were living, aged seventy, eighty-four, and eighty-seven respectively; and two of her sisters were living, aged fifty-four and sixty.

History of the Present Illness.—This began four years ago with a constant red vaginal discharge between the periods. Three years ago she became an in-patient, on account of rheumatism. While she had the rheumatism she said the red discharge ceased. It returned, however, as soon as the rheumatism was over, and she said that practically for the last three years she had had a red vaginal discharge every day. There had been a good deal of pain in the lower abdomen from time to time.

State on Admission.—Her weight was 13 st. 10 lb. The temperature and pulse were normal.

Examination, October 26th. 1896.—Nothing abnormal could be felt on examination of the abdomen. There were about two inches, or more, of fat in the abdominal wall.

On vaginal examination the cervix appeared healthy. The os was not patulous, and there was no erosion. The sound passed easily three inches and threequarters. As it was withdrawn there was a flow of bright red blood from the os.

On the evening of October 28th two specially prepared laminaria tents were inserted into the cervix, and kept in position by an iodoform gauze plug. On the 29th, at 2.15, the patient was anæsthetised, and the tents were removed. One was found lying loose in the vagina: the other had dilated the cervix up to the size of No. 14 of Hegar's series of bougies. The dilatation of the cervix was then completed up to No. 19 Hegar.

The finger was passed into the uterus, and, as far as the finger could reach, a soft, papillary, friable growth was felt. There was no evidence that the disease had extended outside the uterus.

Operation, November 12th, 1896.—Vaginal hysterectomy was performed. The points specially worth mentioning as regards the operation are, first, that the vagina was extremely narrow, and it was necessary to incise the

posterior vaginal wall about an inch from the vaginal orifice, and then to increase the space by stretching the vaginal walls laterally with retractors. When the vesico-uterine pouch and Douglas's pouch had been freely opened, the left broad ligament was clamped piece by piece from below upwards, and the broad ligament divided between the uterus and the clamps, till the whole of the left side of the uterus was free. It was found very difficult to do what has just been described, owing to the size of the body of the uterus. An attempt to pull the uterus out was then made, but for some time it could not be brought into the vagina. The uterus was then seized with the special forceps that are used for inserting Champetier de Ribes' bag. These slipped off when traction was made. The uterus was then seized with a pair of tumour forceps having the same lock as a pair of small midwifery forceps, and by this means the uterus was brought down into the vagina, the left side first. The right broad ligament was then clamped and divided, and the uterus removed. There was a vessel in the right broad ligament which gave rise to some bleeding after the removal of the uterus, and it was only secured with a good deal of difficulty. It appeared to be a vessel which had slipped out of one of the clamps. The usual iodoform gauze plug was inserted.

Subsequent Progress.—There was a good deal more oozing than usual during the twenty-four hours succeeding the operation, bloody fluid coming away from the forceps drop by drop, with about five seconds between each drop, on to the bed. This continued during the whole evening of November 13th. Then the oozing gradually decreased, the intervals between the drops becoming much longer.

The pressure forceps and the gauze plug were removed on the fourth day.

Pulse.—During the first two days after the operation the pulse was once as high as 132, and it remained between 116 and 120 on the third day. After that it was about 100 during the fourth and fifth days, and from that time it varied from 92 to 108.

The temperature went up to 101° on November 14th.

After that it was below 100° till the 19th, when it reached 100·4°. After that it remained normal till December 4th, when it again reached 100°.

On November 30th (that is, eighteen days after the operation) the patient passed about four ounces of urine which was of a bright red colour, and obviously contained a good deal of fresh blood. She was kept very quiet, and opium was administered. Next morning the urine passed was perfectly clear and normal. In the afternoon of December 1st she passed about two ounces of urine with a little blood in it. About 3 p.m. she appeared quite well in herself. About 11 p.m. on December 1st, while using the bed-pan, the patient passed about six or eight ounces of pure blood from the vagina. After this the bleeding appeared to have stopped, but later it recurred—that is, in the early morning of December 2nd, about 3 a.m.—and it was obviously due to secondary hæmorrhage from the region of the wound.

The patient was placed on her left side, and the hips drawn right over the edge of the bed. Sims's speculum was passed, and the region of the wound brought into view. The dark blood-clot was removed by sponges on holders. The bleeding point was seen anteriorly and to the right. It was evidently arterial bleeding. The artery could be seen spouting occasionally. No bleeding could be seen above this point. The tissues in the neighbourhood of the bleeding point had been sloughing (as always occurs after the use of pressure forceps in vaginal hysterectomy), and attempts to catch the bleeding point with long Wells's forceps were on this account at first unsuccessful. Ultimately two pairs of large, and two pairs of small, Wells's forceps were got on, and completely stopped the bleeding. The vagina was then plugged with iodoform gauze. No anæsthetic was given during the proceeding just described.

December 3rd.—Incontinence of urine was noticed for the first time on this date.

On December 4th, at 2 p.m., the four pairs of pressure forceps were removed.

The patient from this time went on quite satisfactorily,

except so far as concerned the incontinence of urine, which persisted.

December 17th.—A careful examination was made. The wound in the upper part of the vagina had almost healed.

A few days after this a further examination was made under anæsthesia, with the patient in the lithotomy position. Milk was injected into the bladder, and the vagina thoroughly exposed with Sims's speculum, but no milk leaked into the vagina. It became clear, therefore, that the incontinence was due to a uretero-vaginal fistula. In other respects the patient was quite well.

She left the Hospital on January 9th, 1897. Her weight was then 12 st. 2 lb.

The occurrence of secondary hæmorrhage so late as the eighteenth day was a remarkable feature in this case. I have very rarely in the course of my experience in similar operations seen secondary hæmorrhage at all, but in the few cases in which there has been a slight hæmorrhage, packing with iodoform gauze through a speculum has always been sufficient to stop it, except in the case just recorded, and one other.

It appears to me that the incontinence of urine was due probably not so much to the tissues that were actually grasped by the four pairs of forceps put on during the secondary hæmorrhage, as to the unsuccessful attempts to secure the bleeding point. The tissues in the neighbourhood of the wound—of course necessarily in the neighbourhood of the right ureter—were naturally in a sloughy condition, and it is easy to understand how the attempts made to secure the bleeding point might have torn a small hole in the right ureter. It will be observed that the incontinence of urine came on very soon after the application of these forceps, and before they were removed.

After-History.—Some months later she came up to the Hospital, and reported that she could hold her water perfectly, and was quite dry. I examined her then, and on several subsequent occasions, and there was no sign of recurrence, nor of incontinence of urine, nor could anything abnormal be detected in the region of either kidney.

I examined her, for instance, at the Hospital on June 8th, 1898. At that time she was quite well, and free from any sign of recurrence. I also examined her in February, 1900, when she was free from any sign of recurrence. But about the third week in May, 1900, she came up to the Hospital complaining of great pain in the pelvis, and on examination there was a hard mass felt in the recto-vaginal septum, which had not been there previously.

The patient gradually went from bad to worse, and died not very long afterwards.

In this case it will be seen recurrence took place in the course of the fourth year.

A portion of the growth from the body of the uterus was sent to the Clinical Research Association for examination. The report on it (dated April 26th, 1900) is as follows:—

"This growth is a large soft columnar-celled carcinoma of the body of the uterus. It has a villous surface, and has deeply infected the muscular tissue of the uterus."

IN TWO CASES (NOS. 11 AND 38) THE PATIENTS WERE LOST SIGHT OF.

CASE 11.*—

E. T., a married woman, aged fifty-four, was admitted into the London Hospital under my care on August 9th, 1893.

Family History.—At the time of her admission her mother (aged eighty-six) was in the Bethnal Green Infirmary, apparently suffering from nothing but old age. Her father died at the age of eighty. Two of her brothers, and two of her sisters were living—all healthy. Her mother had thirteen children altogether.

Previous History.—The patient had lived at Walthamstow. She was born in Spitalfields. She had had to work hard, but lived pretty comfortably till about six months ago, when her husband had to give up work,

* The number refers to the Table of forty consecutive vaginal hysterectomies for cancer (p. 224).

and she had had rather a hard time since. She was operated on nineteen months ago for umbilical hernia.

Menstruation.—She thought the catamenia began about the age of eleven or twelve, and the menopause occurred eleven years ago, when she was forty-three.

She was married at the age of twenty-one—that is to say, she had been married thirty-three years. She had never been pregnant.

History of the Present Illness.—This began ten months ago. When she was sitting down in the kitchen, she suddenly lost a great deal of blood: three or four large clots came away. She was in great pain of a bearing-down character, and she described the loss as "a flooding." Previously she had been exerting herself in moving from one house to another. She was laid up after this flooding for six weeks, losing small portions of black clot for the first three weeks. After these six weeks there were about four months during which she was fairly well. Then the same symptoms recurred—that is, bleeding, though not so much as on the first occasion—and the same pains. This second time she was laid up for a fortnight. Two months ago she came as an out-patient. Six weeks before her admission she was again losing blood for about nine days, with much pain.

State on Admission.—She seemed very tender in the hypogastric region, and a swelling could be felt there on deep pressure rising out of the pelvis, which on vaginal examination proved to be the body of the uterus. When the cervix was exposed with a Sims's speculum, the sound was passed into the uterus. It caused very free bleeding. The cervix appeared to be quite healthy. The body of the uterus was considerably enlarged—*viz.* to the size of the pregnant uterus at eight or ten weeks.

August 14th. — After the vagina had been douched with corrosive sublimate lotion, two specially prepared laminaria tents were inserted into the cervix at 8 p.m. The next day at 2 p.m. the patient was anæsthetised, and the tents were removed. The cervix was drawn down with a volsella, and the finger easily passed into

the uterus. The cavity of the uterus was considerably enlarged, and occupied by a projecting friable mass, which had a diffused attachment. Portions of the growth came away as the finger was withdrawn; they were of a yellowish-white colour. The uterus was freely movable. The diagnosis made was primary carcinoma of the body of the uterus.

Operation, August 21st, 1893.—Vaginal hysterectomy was performed, the main steps of the operation being the same as in the other cases which have been described. There were certain points of difference, however, in the *technique*, necessitated by the size of the uterus, and the narrowness of the vagina. It was necessary to incise the perineum freely. When the right side of the uterus had been separated, great difficulty was found in getting the uterus into the vagina, and a pair of forceps made like short midwifery forceps, with a slight pelvic curve, were "put on" to the uterus. With these the delivery of the uterus into the vagina, and outside, was effected. The left broad ligament was then secured with pressure forceps, and the uterus removed. The forceps were removed two days afterwards.

The highest temperature was 102°, which occurred on the day the forceps were removed. For two weeks after the operation the temperature varied between 100° and 98°. After the end of the second week it remained normal.

The patient left the Hospital on September 30th, 1893.

Subsequent History.—She came up to show herself at the Hospital in November, 1893, and was examined. The scar then was perfectly healthy, and she had no sign of recurrence. I also saw her at the Hospital on October 11th, 1894. She was then quite well, and there was no sign of recurrence. That is to say, she was known to be free from recurrence more than a year after the operation.

Unfortunately I have to say that since then I have been unable to trace her. Several letters have been written to her address, but have not elicited any reply.

CASE 38.*—

Mrs. S., aged fifty-seven, was brought to see me on April 28th, 1898.

Previous History.—She had been married about thirty years, and had had six children (the last nineteen years previously) and three miscarriages, all previous to the last confinement.

History of the Present Illness.—She had been regular up to five years ago, but she said it was quite five years since the change of life occurred. She had had no discharge of any kind since then until about ten weeks ago. The discharge at first was yellow, sometimes brown, and sticky and offensive. After three weeks or so she woke up one morning and found herself saturated with blood, and since then there had been some blood-stained discharge, more or less offensive. She had also suffered from pain in the "front passage," and backache. She said the pain in the passage had come on recently, and was darting and throbbing in character. She also had a feeling of fulness in the abdomen.

Examination of the abdomen detected nothing abnormal.

On vaginal examination the mucous membrane was redder than normal; the external os uteri was rather more open than usual; the uterus seemed fairly movable. There was some blood-stained discharge coming from the os before the sound was passed. The sound passed a distance of three inches and a half.

Shortly afterwards the patient went to a nursing home, and the cervix was dilated with tents and Hegar's dilators. The result of the examination was to confirm my previous suspicion, that the case was one of primary malignant disease of the body. Accordingly I advised vaginal hysterectomy to be performed.

The operation was performed in the usual way on May 14th, 1898. Forceps were used to secure the vessels.

As regards the patient's progress within a few days of the operation, about twelve hours after the operation vomiting of a very obstinate character began, and persisted

* The number refers to the Table of forty consecutive vaginal hysterectomies for cancer (p. 224).

till the end of the third day. On that day the forceps and gauze plug were removed, and after this was done the vomiting immediately ceased, and the subsequent progress of the patient was very satisfactory.

I have, unfortunately, no information as regards her later progress.

IN THE FOLLOWING CASE (No. 3) THE MALIGNANCY OF THE GROWTH WAS DOUBTFUL.

CASE 3.*—

E. W., aged forty-two, was admitted into the London Hospital on October 8th, 1889. She had been married twenty-two years, and had had one child twenty-one years previously; she had never been pregnant since. The confinement was said to have been a very difficult one. Instruments were used, and she had post-partum hæmorrhage. She was in bed three weeks after the confinement with great pain in the lower abdomen, and "feverishness."

History of the Present Illness.—She was well up to September, 1888. She then had a sudden attack of flooding, and she had been losing blood on and off ever since: it had only stopped once for four or five days—this was a fortnight before her admission. She had had no pain except when clots were being passed; then she had slight pain like labour pains. She rather thought she had been losing flesh, but was not very clear about it.

The catamenia appeared when she was twelve, and she had been regular every four weeks: she had had no pain at the time.

State on Admission.—The patient was admitted from the Receiving Room because she was losing so much blood. I happened to be in the Hospital at the time of her admission, and examined her at once. She was exceedingly anæmic, and was losing a good deal of blood.

On vaginal examination I found a soft friable "cauliflower-like" mass projecting through the os uteri: it was as large as a goose's egg. The os was dilated

* The number refers to the Table of forty consecutive vaginal hysterectomies for cancer (p. 224).

considerably, and its margin was quite free from the growth. The growth had its attachment by a pedicle high up in the uterus. I felt sure at the time that there could be no doubt about the malignancy of the growth, which was exactly like the ordinary "cauliflower" mass. Pieces of it came away on digital examination, with free bleeding, and the pieces had a yellowish-white colour: in fact, the mass was identical in every way with the ordinary "cauliflower" growth of the cervix, except that in this case it was not coming from the cervix, at all events not from the vaginal portion of the cervix, but from within the uterus some way up.

On this occasion I removed the mass with the *écraseur* and scissors. Unfortunately none of the mass was kept. I felt little doubt that a further operation would be necessary, and thought that other characteristic portions of the growth would then be available for microscopic examination.

She was none the worse for the small operation already described. On October 3rd an examination was made. The os was a little patulous, admitting the finger a quarter of an inch. There was a little yellow discharge in the os. The uterus seemed not enlarged, and freely movable.

On November 7th the cervix was dilated under anæsthesia till the finger could be passed into the body of the uterus. Nothing indicating disease was found in the cervical canal. In the body of the uterus a soft irregular patch was felt on the posterior wall. It seemed probable that this had been the seat of attachment of the mass removed at the time of the patient's admission to the Hospital.

Feeling, as I have already said, no doubt as to the malignant character of the growth removed on that occasion, I thought the right thing to do was to remove the uterus, which I did by vaginal hysterectomy. The broad ligaments were secured partly with Wells's forceps, and partly with ligatures. One suture was used to close Douglas's pouch, and a small drainage-tube was inserted there. Carbolic gauze sprinkled with iodoform was used to plug the vagina. The forceps were removed on

November 9th; the ligatures came away on November 21st, and several offensive black sloughs were removed at the same time from the site of the wound.

On November 28th she was examined, and in the situation of the wound at the top of the vagina a curious projection, red in colour, the size of half a walnut, and of somewhat conical shape, was found. It seemed possible that this might be part of an ovary prolapsed into the wound, and fixed there.

The patient went home on December 7th.

Her weight before the operation was seven stone, and it was the same after the operation when she was about to leave the Hospital.

She was traced by Mr. Bishop (Clinical Clerk) in January, 1891. She promised him that she would come up to the Hospital. She said on that occasion that she was quite well, and had had no bleeding or discharge. I did not, however, see her until the middle of August, 1891. I examined her, and found no evidence of recurrence, but the projection mentioned above was in exactly the same condition as before.

The last occasion on which I was able to examine this patient was at the London Hospital on October 5th, 1893, in "Crossman" Ward. There was no sign of any recurrence, and her weight was 7 st. 3 lb. The projection at the top of the vagina was in the same condition.

This patient was therefore known to be in good health almost four years after the operation; in fact, to be exact, a month short of the four years only. I have never been able to trace her since.

Unfortunately the mass removed when she first came into the Hospital, which had all the physical characters of a "cauliflower" growth, was thrown away, and subsequent examination of various parts of the uterus failed to discover anything having definitely malignant characters. Those who are familiar with the subject will be able to form their own opinion from the clinical account of the case as to the probability of the mass removed on admission being malignant; but its nature could not be proved by microscopical examination for the reason stated.

Numbers refer to the Consecutive Series of Forty Vaginal Hysterectomies for Cancer (p. 224).

No. in the Consecutive Series of 40 Vaginal Hysterectomies for Cancer.	Disease.	Date of Operation.	Place of Operation.	Interval since Operation without Recurrence.	Microscopic Characters of Growth.
7. Mrs. D. ...	Cancer of Body.	Feb. 1st, 1893.	Private. With Dr. Stott, of Highgate Road, and Dr. Godson.	9 years, to July, 1902, the date when I last heard of her from Dr. Stott.	Extract from Clinical Research Association's report (Mr. Targett):—"The growth may be described as a villous carcinoma."
8. Mrs. S.... ...	Cancer of Body.	June 8th, 1893.	London Hospital. Sent to me by Dr. Best, of Dover.	9 years, to Aug. 28th, 1902, when I last heard from her by letter that she was well.	Extract from Clinical Research Association's report (Mr. Targett):—"A soft, columnar-celled carcinoma."
24. Mrs. H. ...	Cancer of Body.	Aug. 30th, 1895.	London Hospital.	4¾ years, up to May, 1900, when I heard from her by letter that she was quite well.	Extract from Clinical Research Association's report (Mr. Targett):—"The growth from the body of the uterus is a soft, glandular-celled carcinoma, which has extensively infiltrated the muscular substance."
29. Mrs. W. ...	Sarcoma of Body. "Deciduoma Malignum."	Feb. 11th, 1897.	London Hospital.	5 years, up to Feb. 27th, 1902, when I last examined her at the London Hospital.	For full report of this case see p. 273.
32. Mrs. B. ...	Cancer of Body.	Sept. 4th, 1897.	Private. With Dr. Pope, of Kington, Hereford.	4 years, up to Oct. 4th, 1901, when I last heard from her by letter.	Extract from Clinical Research Association's report (Mr. Targett):—"The tissue from the body of the uterus is extensively infiltrated with a soft, columnar-celled carcinoma."

INDEX.

A

PAGE

Abdominal hysterectomy—
For cancer of cervix 252
„ „ „ body 255
„ uterine fibroids 256
Abdominal pan-hysterectomy 258
Adenoma 7, 236
„ Malignant, of cervix 110, 139, 165
„ and squamous carcinoma together 195
Advanced cases—
Of cancer of cervix 51
„ „ body 251
Radical operations in 79
Ætiology of cancer of cervix 8
„ „ „ body 236
After-results of radical operations—
For cancer of cervix 91, 124, 141, 143
„ „ body 286, 321
After-treatment in vaginal hysterectomy 70
„ „ „ pan-hysterectomy 261
Age in cancer of cervix 8
„ „ „ body 236
Anæsthesia, Examination under 52, 252
Analysis of after-results—
In cancer of cervix 140
„ „ body 286
Appendages, Inflammation of uterine, complicating cancer of uterus 175, 195, 266
Atresia after supra-vaginal amputation 123
Atypical form of cancer of cervix 28

B

Benger's Food 75
Bladder, Injury to 64
„ Extension of cancer to 52
Bleeding in cancer of uterus 5, 12, 238
„ „ tubercle of cervix 41
Body of uterus, Primary cancer of 236
„ „ Secondary cancer of 33
„ „ in cancer of cervix not generally enlarged . . 29

PAGE

Body of uterus, Enlargement of, in cancer of cervix—
By pyometra 131, 211
„ fibroids 54, 147
„ pregnancy 108, 169
„ hæmatometra 119
Bowels adherent to uterus in cancer of body 251
„ Attention to, before operation 58
„ „ „ after operation 75
„ Partial obstruction of, due to forceps 73
Brown vaginal discharge 238, 262

C

Cachexia, a late occurrence in cancer of uterus . . . 3, 238
Calculation of percentage of "cures" 142
Cancer of cervix 7
Abdominal hysterectomy for 253
After-results of operations for . 80, 94, 124, 126, 141, 143, 144, 176, 219, 224
Age in cases of 8
Bleeding in cases of 12
Cauliflower excrescence in 16
Clinical varieties of 16
Conical, or crater-like, ulcer in 16, 26, 96, 153
Diagnosis of 34
Discharge in cases of 14
Fertility in relation to 9
Hard raised plaque in 21
Heredity 12
Lymphatic glands in 49
Mushroom-like form 19
Nodular variety of 22
Pain in 15
Palliative treatment in 88
Physical signs of 16
Punctiform exudation of puriform fluid in 19
Semi-polypoid form of 17
Supra-vaginal amputation for 75
Symptoms of 12
Treatment of 51
Vaginal hysterectomy for 58
Cancer of body of uterus 236
Abdominal pan-hysterectomy for 258
After-results of operations for 286, 321
Age in relation to 236
Bleeding in cases of 238
Brown discharge in cases of 238, 262
Clinical varieties of 242
Diagnosis of 247
Discharge in cases of 238
Fertility in relation to 237
Flat raised growth in 246
Hard, irregular condition of endometrium in 242, 246, 287, 289
Lymphatic glands in cases of 304
Pain in 238
Papillary growths in 243

PAGE

Cancer of body of uterus (*continued*)—
Physical signs of 238
Symptoms of 237
Treatment of 251
Tuberose hard form of 246, 248
Vaginal hysterectomy for 267
Cancer of vaginal portion of cervix 16
„ „ supra-vaginal cervix 29
Carcinoma of cervix—
Columnar-celled (adeno-carcinoma) . 26, 109, 139, 165, 173
Squamous-celled 97, 101, 102, 105, 107, 112, 113, 114, 116, 121, 122, 126, 128, 131, 133, 134, 137, 195, 203, 205
Squamous, together with adenoma 195
Carcinoma of body of uterus, Columnar-celled 236, 264, 267, 289, 295, 297, 303, 306, 314
"Cauliflower" excrescence 16
Child-bearing and cancer of cervix 9
„ „ „ „ body 237
Clinical picture of case of carcinoma of body 240
„ varieties of cancer of cervix 16
„ „ „ „ body 242
Coitus, Bleeding after 13, 41
Consecutive operations, Tables of 219, 224
"Cures," Percentage of, in cancer of cervix 141
„ „ „ „ body 286
Cysts of cervix, Diagnosis of, from cancer 46

D

Death, Causes of, after vaginal hysterectomy 79
Decades showing age incidence of cancer of cervix 9
Deciduoma malignum 7, 236, 273
Diagnosis, A suggestion to facilitate early 5
„ of cancer of body 247
„ „ „ cervix 34
Difficulties in vaginal hysterectomy 63
Difficulty in recognising cancer early 2
Directions in which cancer of cervix spreads 48
Distension after vaginal hysterectomy 70
Doubtful cases 148, 149, 151, 179, 318

E

"Early" cases of cervix 51
„ „ „ „ body 243, 251
Education of women themselves as to early symptoms of cancer . 5
Eleven years without recurrence 100
Erosion, Diagnosis of, from cancer of cervix 35
Eversion of cervical mucous membrane, Diagnosis of, from cancer . 45
Evidence of non-recurrence, Nature of the 92
Excrescence, The "cauliflower" 16

F

Fertility in cancer of cervix 9
„ „ „ body 237
Fibroids, Diagnosis of, from cancer 36, 248
„ complicating cancer of cervix 54, 147, 121

PAGE
Fibroids, complicating sarcoma of body 279
„ „ vaginal hysterectomy 54, 68
Fifteen years without recurrence 96
Five children, Proportion who have had, in cancer of cervix . . 11
„ years without recurrence 113
Four years without recurrence 116, 121, 137, 139

H

Hæmatometra after supra-vaginal amputation 119
Hæmatosalpinx after supra-vaginal amputation 119
Hæmaturia after vaginal hysterectomy 65
Hæmorrhage 5, 12, 41, 238
„ during vaginal hysterectomy 67
„ Secondary, after vaginal hysterectomy . . 69, 312
„ „ „ supra-vaginal amputation . . 77
Hegar's dilators, in cancer of body 242
Hypertrophy of vaginal cervix, Diagnosis of, from cancer . . 46

I

Incomplete operations 144, 146, 147, 177, 179
Intestinal obstruction, Partial, after vaginal hysterectomy . . 73
Introduction 1
Iodoform gauze in vaginal hysterectomy 62
„ „ abdominal pan-hysterectomy 261
Isolated shotty nodules near cancerous growth of cervix . 48, 205

L

Lacerations of cervix, Diagnosis of, from cancer 45
„ complicating vaginal hysterectomy . . . 67, 213
Later symptoms of cancer of cervix 15
Letters from patients as evidence of non-recurrence . . . 93
Ligatures in vaginal hysterectomy 61
„ abdominal pan-hysterectomy 258
Lost sight of, Cases, after supra-vaginal amputation . . . 167
„ „ „ „ vaginal hysterectomy . . 181, 314, 317
Lungs, Secondary sarcomatous growths in 271
Lymphatic glands, Involvement of 49, 304

M

Menopause, Hæmorrhage after 3
Mobility of uterus in cancer of cervix 52
„ „ „ „ body 240
Mucous polypi, Diagnosis of, from cancer 39, 250
Mushroom-like form of cancer of cervix 19

N

Nine years without recurrence 112
Nodular variety of cancer of cervix 16, 22
Nutrient enema after vaginal hysterectomy 70
„ enule after vaginal hysterectomy 71

O

PAGE
Occlusion, after supra-vaginal amputation 118
Offensive discharge in cancer of cervix 15
„ „ „ „ body 239

P

Pain in cancer of cervix 3, 15
„ „ „ body 3, 238
Palliative treatment of cancer of cervix 88
Pan-hysterectomy, Abdominal, for cancer of body, ... 258
„ „ Cases of 261, 264
Paquelin's cautery 59, 88
Pelvic peritonitis, Diagnosis of, from cancer 48
Physical signs of cancer of cervix 16
„ „ „ „ body 238
Plaque, The hard raised, in cancer of cervix 16, 21
Plasmodial masses 283
Polypoid form of cancer of cervix 17
Pregnancy complicating cancer of cervix 105, 169
Procidentia uteri with cancer of cervix 216
Prolapse of bowel after vaginal hysterectomy 73
Puriform fluid, Punctiform exudation of, in cancer of cervix . . 19
Pyometra 68, 69, 131, 132, 212

R

Radical operation, Cases suitable for 56, 251
Recurrence after supra-vaginal amputation—
During first year . . . 152, 154, 156, 157, 158, 160, 161
„ second year 163
„ third year 166
Recurrence after vaginal hysterectomy for cancer of cervix—
During first year 183
„ second year 198
„ third year 203
„ fourth year 207
Recurrence not in scar 154
„ after vaginal hysterectomy for cancer of body—
During first year 301
„ third year 304
„ fourth year 309
Rest, Importance of, after vaginal hysterectomy 71
Retention of menses after supra-vaginal amputation . . . 119

S

Sarcoma 7
„ of cervix 33
„ „ body of uterus 236, 269, 273
Senile endometritis, Diagnosis of, from cancer of body . . . 250
Seven years without recurrence 105, 128, 131
Sexual intercourse, Bleeding after 13
Shotty submucous nodules near malignant growth of cervix . 48, 205
Six years without recurrence 126, 134
Sound, The uterine, in cancer of cervix 17, 19, 22
„ „ „ „ „ body 239

PAGE
Squamous-celled carcinoma of cervix 97, 101, 102, 105, 107, 112, 113, 114, 116, 121, 122, 126, 128, 131, 133, 134, 137, 195, 203, 205
Strychnine, Hypodermic injection of 70
Suggestion to facilitate early diagnosis 5
Supra-vaginal cervix, Cancer of 29, 31, 33
" amputation of cervix 75
" " " Table of consecutive cases of . 219
Symptoms of cancer of cervix 12
" " " body 237
Syncytium 283
Syphilitic lesions, Diagnosis of, from cancer 40

T

Tents, in diagnosis of cancer of body 241
Treatment of cancer of cervix 51
" " " body 251
Trendelenburg position 258
Tubercular lesions, Diagnosis of, from cancer 40
Turpentine enema after vaginal hysterectomy 70
Twelve years without recurrence , ... 109

U

Ulceration of cervix, Diagnosis of, from cancer 47
Ureters, Injury to 64, 82, 313

V

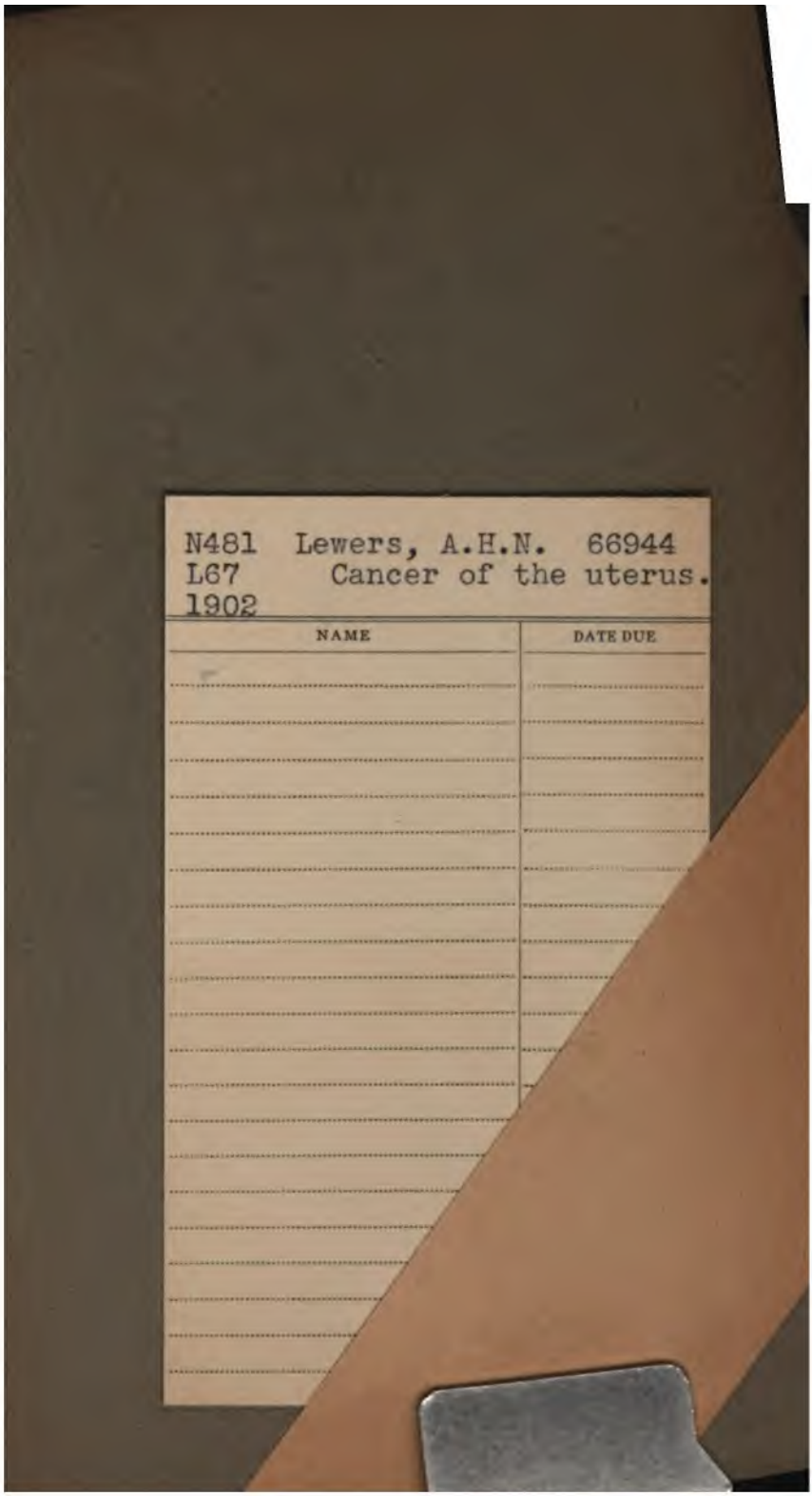
Vagina, Narrowness of, in vaginal hysterectomy 63
" Secondary carcinoma of 48, 207
" " sarcoma of 270
Vaginal hysterectomy for cancer of cervix 58
" " " " body 257, 267
" hysterectomies, Consecutive series of 224
Varieties, Clinical, of cancer of cervix 16
" " " " body 242
Vesico-vaginal fistula after vaginal hysterectomy . . . 64

W

Warty growths of cervix, Diagnosis of, from cancer 36
Wells's forceps in vaginal hysterectomy 61
" " " abdominal pan-hysterectomy . . . 260
" " removal of, after vaginal hysterectomy . . . 71
Werder's operation in advanced cancer 86

Z

Zinc, Chloride of, in advanced cancer 89


N481 Lewers, A.H.N. 66944
L67 Cancer of the uterus.
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